NESOS E-MAG

Volume 2. No.1, July-Dec 2023

"Orbit - the Pandora's box"

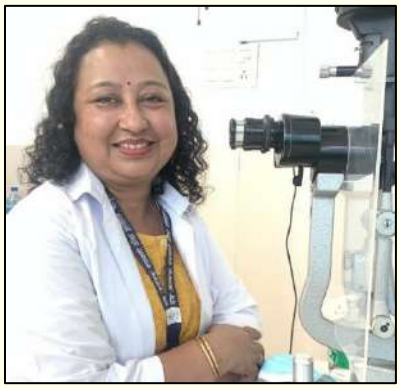
HIGHLIGHTS

- Expert corner: Current practices in management of TED
- Review: Clinical overview of Orbit
- Clinical cases
- Photo stories
- About NepTED Registry

an Official biannual e-Magazine by: NESOS Nepalese Society for Oculoplastic Surgeons

Message from President

Dear friends and colleagues,



It gives me immense delight to congratulate and express my sincere thanks to the editorial team for successfully publishing yet another E- magazine issue of NESOS. The tireless efforts and dedication demonstrated by the editorial team is highly appreciated.

The theme of this current issue "Orbit - The Pandora's Box" has been justified by our talented writers. I believe the issue of E-Magazine highlights pertinent issue of orbital problems and adds insight to the treatment and care of orbit related issues of our patients. Research, opinions and teaching learning process should always go hand in hand with clinical practice. I am glad to see renowned International Oculoplastic surgeons like Milind Naik and Hirohiko Kakizaki contribute to this very edition. Their involvement underscores the global relevance and impact of NESOS as a beacon of excellence in the field.

However, as you go through the thought-provoking articles and engaging discussions within the pages of this magazine, it becomes evident that these topics merits further exploration which will take us to the next level of academic arena. I believe NESOS e-Mag will be a sustainable, permanent platform for Oculoplastic surgeons and enthusiasts to share and learn their knowledge and experience. I encourage each one of you to immerse yourself in its contents, for this is not just a magazine; it is your space, your source of enlightenment, and your window to the vibrant world of oculoplastic surgery.

In closing, I extend my best wishes to all who have contributed, participated, and engaged in the creation of this remarkable edition. Together, let us embark on a journey of exploration, learning, and active contribution. Together, we shall unlock the limitless potential that resides within the realm of oculoplastic excellence.

With warm regards and anticipation,

Dr Sulaxmi Katuwal
President
NESOS

Editorial

Dear readers,

We are excited to introduce you to the third edition of the NESOS e-Magazine, which is the official biannual electronic magazine of the esteemed Nepalese Society for Oculoplastic Surgeons (NESOS). This magazine attempts to bring together useful scientific knowledge and interesting insights in a smooth and engaging way. Within its digital pages, readers can expect to discover a variety of valuable contents, including thought-provoking articles, comprehensive reviews, insightful opinions, invaluable tips and tricks, interesting case studies, and a treasury of unconventional offerings.

The theme for this issue is "Orbit – the Pandora's box". The orbit, a delicate cavity, is a Pandora's Box of diverse diseases and afflictions. The orbit is a complex structure comprising bones, muscles, nerves, and blood vessels, all working together in synchrony to protect and support the eyeball. Beyond its role in preserving the eye's function, the orbit's close proximity to the brain and sinuses makes it susceptible to various diseases. The myriads of orbital diseases include orbital tumors, thyroid eye diseases (TED), orbital inflammations, orbital fractures, vascular anomalies, orbital cancers etc. These conditions can present a unique set of challenges for both patients and healthcare professionals. The orbit, often overlooked in discussions about ocular health, is a Pandora's Box of diverse diseases, each demanding distinct diagnostic approaches and tailored management. A collaborative effort involving ophthalmologists, radiologists, oncologists, and other specialists ensures comprehensive care and tailored treatment plans.

For the aspirants and the seasoned practitioners alike, this platform serves as a bridge between generations. Young oculoplastic surgeons will have the privilege to gain wisdom from the experiences of their predecessors, while established experts find a space to share their insights, shaping the future of oculoplastic surgery in Nepal and beyond.

We appreciate the efforts of all the members of the NESOS executive committee, our esteemed authors, designers, and the sponsors for the tremendous support.

Happy reading!

Sincerely,
Dr Sabin Sahu
Editor-in-chief
NESOS e-Magazine

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· Reviews, expert opinion, history of surgery, and tips/tricks
· Original research articles
· Case report/ case series
· Picture essay - Interesting oculoplastic pictures with short explanation

2. Word count:
While the word count is not rigid, it is advised that the authors follow following word limit for their articles.
· Major review and original research articles — maximum 3000 words
· Expert opinion, tips and tricks — maximum 2000 words
· Case report and series — maximum 1000 words
· Picture essay — maximum 500 words

3. Interesting photographs related to oculoplasty, oculoplasty surgery or surgeon, those depicting success stories in Oculoplasty are also welcomed. Photographs should have a brief description of 2–3 sentences related to the photograph and the name of the photographer.

Please note:
1. This is not a peer reviewed publication. Published article will not be counted as academic achievement.
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Zero-mile, Janakpurdham
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Contact no. 9851054783
Email: nesosnepal@gmail.com
Website: www.nesosnepal.org.np

In this issue / Content

About NESOS:

Introduction to Nepalese Society for Oculoplastic Surgeons NESOS

Author: Dr Sabin Sahu

Brief History of the subspeciality

Nepalese Society for Oculoplastic Surgeons (NESOS) is a professional medical organization dedicated to advancing the field of oculoplastic surgery in Nepal. It was formed on 15th October, 2014 with small number of passionate and skilled oculoplastic surgeons in Nepal, who have had training or fellowship and experience in this highly specialized field of Orbit and Oculoplastic surgery. The society had Prof Dr Rohit Saiju as the founding executive committee President.

The objectives of NESOS are to promote the academic trainings, research and quality of clinical practice in the area of plastic, reconstructive and aesthetic surgery of eyelids, orbits and lacrimal system. By nurturing young talents and encouraging research activities, the society aims to contribute to the global body of knowledge in oculoplastic surgery.

The society serves as a platform for oculoplastic surgeons across Nepal to collaborate, share knowledge, and enhance their expertise through conferences, workshops, and seminars.
NESOS also plays a crucial role in raising awareness about oculoplastic disorders and treatment options among the general public and other medical professionals. By conducting outreach programs and public health initiatives, the society endeavors to improve eye health and overall well-being within the Nepalese community.

Registration number: 362/ 2071/6/29

Executive members and number of members

NESOS currently has 43 full members with few international honorary and associated members.
Founders:

- Dr Rohit Saiju
- Dr Basant Raj Sharma

Executive committee members (2023-24):

- President – Dr Sulaxmi Katuwal
- Immediate Past President – Dr Ben Limbu
- Vice-President – Dr Ranjana Sharma

- General Secretary – Dr Puja Rajbhandari
- Treasurer – Dr Sabita Palikhe
- Joint Secretary – Dr Suresh Rasaily
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- Editor-in-chief – Dr Sabin Sahu
- Members – Dr Aashish Raj Pant, Dr Tina Shrestha, Dr Nisha Shrestha, Dr Prerna Arjyal Kafle, Dr Gaurav Dhungana

Past Presidents:

- 2021-2022 - Dr Ben Limbu
- 2019-2020 –Dr Basant Raj Sharma
- 2017-2018 – Prof Dr Rohit Saiju
- 2015-2016 – Prof Dr Rohit Saiju

Activities

- Organizing regular conferences (NESOSCON conference every 2 years), workshops, and seminars on oculoplastic surgery topics.
- Providing continuing medical education (CME) programs for its members to enhance their knowledge and skills.
- Hosting guest lectures and inviting renowned oculoplastic surgeons from around the world to share their expertise.
- Facilitating collaborative research projects and encouraging research activities in the field.
- Regularly updating members on the latest developments and technological advancements in oculoplastic surgery.
- Publishes an e-magazine bi-annually covering important topics and updates related to orbit, lacrimal and oculoplastics. It publishes scientific articles and journals to disseminate research findings and advancements in the field.
- Provides travel grant for its members to attend national and international conferences
- Provides awards to members with outstanding contributions in the field like “Young Oculoplastic Surgeon Award”
- Conducting public awareness campaigns about oculoplastic disorders and the importance of eye health.
- Supporting and mentoring young oculoplastic surgeons through fellowship programs and career guidance. It also encourages young Ophthalmologists to pursue career in the field of Oculoplasty
- Advocating for the advancement of oculoplastic surgery within the broader medical community in Nepal.
- Collaborating with other medical societies and organizations to promote interdisciplinary approaches to eye health.
- Contributing to the development of guidelines and standards for oculoplastic surgery practice in Nepal.

NESOS stands as a beacon of excellence in Nepal's medical landscape, working tirelessly to enhance oculoplastic surgical standards, disseminate knowledge, and improve eye health outcomes for the benefit of patients and society at large. The activities NESOS, showcase its commitment to advancing oculoplastic surgery, improving patient care, and raising awareness about eye health in Nepal.

The society is always ready to affiliate or associate with other institutes, societies and organizations to upgrade the quality of the service in this field by sharing the skills and knowledge together as well to overcome the challenges and explore the possibilities in the future.

List of NESOS members:

1. Dr Rohit Saiju
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Current Practice of Thyroid Eye Disease Management

Thyroid eye disease needs a comprehensive and multisystemic approach for its proper diagnosis and treatment. It unfolds like a Pandora's Box, revealing its complexities and intricacies the deeper we explore into it. Its diverse manifestations, potential for rapid changes and multi-faceted treatment strategies, sometimes provide challenges to all of us. So, let's learn from the wisdom of our mentors and guides which can help us navigate the intricate challenges posed by thyroid eye disease.

The questions have been prepared by Dr Sabin Sahu (SS); Consultant Ophthalmologist and Oculoplastic Surgeon from Jyoti Eye Hospital, Janakpurdham.

Dr Rohit Saiju

Dr Hirohiko Kakizaki

Dr Milind Naik

Dr Ben Limbu

Experts:

Dr Rohit Saiju (RS): MD, Professor, Tilganga Institute of Ophthalmology, Dristi Vision eye center and Kathmandu Netralaya in Kathmandu, Nepal

Dr Hirohiko Kakizaki (HK): MD, PhD, Professor, Department of Oculoplastic, Orbit and lacrimal surgery, Aichi Medical University Hospital in Japan

Dr Milind Naik (MN): MD, Consultant & Head, Ophthalmic Plastic Surgery Service at LV Prasad Eye Institute in Hyderabad, India

Dr Ben Limbu (BL): MD, Assistant Professor, Consultant Ophthalmic Plastic & Reconstructive Surgery at Global Eye Hospital in Kathmandu, Nepal

SS: Q1. How frequent do you see thyroid disease patients in your OPD (approximate patients per month)? In your practice, what would be approximate ratio of active and inactive disease thyroid eye disease patients?

RS: On average 10 cases of Thyroid eye disease are seen by me monthly, among them 1 to 2 cases come with active stage. It is shown in literature that somehow in Indian subcontinent countries most of the cases came with inactive forms of TED which is in reverse from Western countries' pictures.
HK: 40/month. Active 10%.
MN: 15 patients a month; 2/13- active/inactive
BL: I see 15-20 TED patients each week in my clinics. Majority of my patients are inactive TED and approximately 10% of my patients present with active TED.

SS: Q2. What are the first-line treatment options you typically consider for mild to moderate TED, and how do you decide between systemic and local treatments?

RS: Non-surgical treatments, such as medications like lubricating drops in day and ointment at night time, protective sun glasses, and low salt diet with heal elevation at night may help to reduce puffy eyelids in the morning. A small dose steroid therapy or sometimes a radiation therapy, are often tried first to manage TED symptoms. Euthyroid status to be achieved in all cases in first to considered.
HK: Watchful observation or topical eye drops. Level of inflammation is judged on MRI and clinical activity score. Only the severe cases undergo systemic treatment. No oral steroid is used.
MN: Lubricants, Advice to stop smoking. Systemic steroids only if patient has optic nerve compression. Prefer local injection of steroid (triamcinolone acetonide) into SR-LPS complex if patient is in active phase, and has only eyelid retraction as the clinical sign (no proptosis).
BL: Mild thyroid eye diseases are mostly managed by local treatment in the form of lubricants, most of the moderate TED, I prefer to give systemic treatments

SS: Q3. In cases of severe or vision-threatening TED, what are your preferred treatment modalities, and how do you balance the need for rapid intervention with potential side effects?

RS: When it comes to severe or vision-threatening Thyroid Eye Disease (TED), the treatment approach may vary depending on the specific symptoms and severity of the condition. Corticosteroids: Corticosteroids, in oral prednisone or intravenous methylprednisolone, as per EUGOGO protocol are often used as a first-line treatment for severe TED. They help reduce

inflammation and swelling in the eye tissues as they provide rapid relief. The dosage and duration of corticosteroid treatment should be carefully monitored and adjusted to minimize side effects. Orbital radiotherapy is another treatment option for severe TED. It involves delivering targeted radiation to the affected eye tissues to reduce inflammation and prevent further damage. This treatment is typically used when corticosteroids are not well-tolerated or when the disease is not responding adequately to steroids.

In some cases, surgical interventions may be necessary to address specific complications of TED, such as optic nerve compression or severe eyelid retraction causing exposure keratopathy. These procedures aim to restore normal eye function and improve cosmetic appearance.

The treatment plan should be tailored to the individual patient's needs, taking into account the severity of the disease, potential risks, and benefits of each treatment modality, and the patient's overall health and preferences. Regular monitoring and follow-up are essential to assess treatment response and adjust the approach as needed.

HK: 1st, I do 3 courses of steroid pulse, after which orbital decompression is planned. If the patient is in diabetes, I consult DM doctors.

MN: For optic nerve compression, I prefer IV Methyl prednisolone therapy in 2-3 weekly cycles if medically fit to receive steroids. If patient is unfit to receive steroids, or if they are not working, I prefer trans-orbital decompression of medial wall and floor.

BL: Severe TED if it is exposure keratopathy then I would do tarsorrhaphy on emergency basis and start Medical Decompression with IV methyl Prednisolone 1gm every day for 3 days and pulses of weekly IV Methyl prednisolone for 12 weeks. For Dysthyroid Optic Neuropathy, immediate medical decompression with IV Methyl Prednisolone 1 gm once daily for 3 days and pulses of weekly IV Methyl prednisolone for 12 weeks. If medical decompression response is slow or absent then I would prefer surgical 2 wall orbital decompression.

SS: Q4. How do you monitor the response to treatment and assess disease activity in TED patients? Are there any specific clinical or imaging markers you rely on?

RS: In the management of TED, regular monitoring is essential to assess the response to treatment and evaluate disease activity. There are several clinical and imaging markers that we can rely on to monitor TED patients.

Clinical markers:

1. Clinical Activity Score (CAS): CAS is a widely used tool to assess disease activity in TED. It evaluates signs and symptoms such as pain, redness, swelling, and eyelid retraction. CAS is a composite score that helps quantify disease activity and guide treatment decisions.
2. Visual Acuity (VA): Monitoring changes in visual acuity is crucial, especially in cases where TED affects the optic nerve. Regular vision tests help assess the impact of TED on visual function and guide treatment decisions.

3. Ocular Motility: Assessing ocular motility, including diplopia (double vision) and eye muscle movement, is important to evaluate the impact of TED on eye alignment and movement.

Imaging markers:

1. Orbital Imaging: Computed tomography (CT) or magnetic resonance imaging (MRI) scans of the orbits can provide detailed information about the extent of orbital tissue involvement, proptosis (eye bulging), and extraocular muscle enlargement. These imaging modalities help in assessing disease severity and guiding treatment decisions.
2. Extraocular Muscle Volume: Quantitative assessment of extraocular muscle volume using imaging techniques can provide objective measurements of muscle enlargement and help monitor response to treatment.
3. Proptosis Measurement: Proptosis can be measured using imaging techniques or by Hertel Exophthalmometry. Regular proptosis measurements help track changes in eye position and guide treatment decisions.

HK: MRI.

MN: I prefer to monitor Response to treatment- by reduction in proptosis, conjunctival and lid signs, corneal clarity, optic nerve – RAPD and color vision.

VISA, record Clinical Activity Score (CAS), although this is often low or zero in majority of Indian patients. Radiology is a poor marker for disease activity, and is expensive. I advise imaging only if Optic nerve compression is suspected or in a case of inactive TED where an orbital decompression is being considered.

BL: Yes, I believe on patients' symptomatic improvement together with vision, clinical assessment score, photography & severity classification, Hertel's exophthalmometry, Pupil assessment and Optic disc evaluation.

SS: Q5. What role do immunosuppressive and immunomodulatory drugs play in your TED treatment approach? How do you determine the appropriate timing and duration of their use?

RS: In our TED (Thyroid Eye Disease) treatment approach, immunosuppressive and immunomodulatory drugs can play a crucial role in managing the underlying autoimmune response and reducing inflammation in the eye tissues. These medications help to suppress the immune system and modulate its response, thereby alleviating the symptoms and preventing further damage.

The timing and duration of their use are determined based on several factors, including the severity of the disease, the patient's overall health, and the response to initial treatments. Typically, these medications are considered when other treatment options, such as corticosteroids or orbital radiation, have not provided sufficient relief or when there is a risk of disease progression.

The decision to initiate immunosuppressive or immunomodulatory therapy is made by a multidisciplinary team, including an ophthalmologist, endocrinologist, and possibly a

immunologist after assessing the patient's clinical presentation, disease activity. The duration of treatment varies depending on the individual response and the specific medication used. In some cases, these drugs may be prescribed for a limited period to control acute inflammation, while in other cases, long-term maintenance therapy may be necessary to manage chronic or recurrent disease.

HK: To settle the inflammation to active phase in general. Steroid pulse for 3 days. 4days rest. This is repeated 3 times.

MN: Apart from Steroids, I do not use any other drugs. I prefer to observe instead.

BL: Yes, immunosuppressive drugs do have strong beneficiary role in management of TED. I combine them in Moderate or severe TED, when IV Methyl prednisolone alone is not responsive or use them alone when patient have to discontinue pulse IV Methyl prednisolone due to its side effects.

SS: Q6. Surgical interventions, such as orbital decompression or strabismus surgery, are sometimes necessary for TED patients. How do you decide when surgical intervention is appropriate, and what factors influence your choice of surgical procedure?

RS: The decision to pursue surgical intervention for TED patients is typically based on the severity of symptoms, the impact on vision, and the response to other treatments. Here are some considerations that may influence the choice of surgical procedure:

If the symptoms of TED, such as eye bulging, double vision, or eyelid retraction, are severe and significantly affecting the patient's quality of life, surgical intervention may be considered. In case with impact on vision, If TED is causing vision problems, such as optic neuropathy or significant visual field loss, surgical intervention may be necessary to improve or stabilize the vision.

Non-surgical treatments, such as medications or radiation therapy, are often tried first to manage TED symptoms. If these treatments are not effective or if the symptoms worsen despite treatment, surgical intervention may be recommended. Specific symptoms and goals: The choice of surgical procedure will depend on the specific symptoms and goals of the patient. For example, orbital decompression surgery may be performed to relieve eye bulging and reduce pressure on the optic nerve, while strabismus surgery may be done to correct double vision caused by misalignment of the eyes.

It's important to note that the choice of surgical intervention is highly individualized and may vary depending on the specific circumstances of each patient. Consulting with the patient and guardians is crucial to determine the most appropriate course of action for each individual case.

HK: On patient’s preference and cornea/optic nerve severity.

MN: I suggest orbital decompression to anyone who has sight threatening TED, or is cosmetically concerned about the proptosis. I wait until the activity phase has passed, typically counting 12-18 months from the time of onset of eye disease.

Choice of surgery depends upon patient's concerns, or their willingness to take up the possible surgical risks.

BL: I perform orbital decompression as routine procedure when clinical Activity score prove inactive TED or as an emergency procedure when medical decompression with IV Methyl Prednisolone fails to response within 2 weeks of treatment in severe TED. Cosmetic demand, amount of proptosis, response to medical treatment, Progressive vision loss, chance of corneal perforation, unable to tolerate IV Methyl Prednisolone and presence of Optic nerve involvement are key factors to decide for surgical orbital decompression.

SS: Q7. TED can be a relapsing-remitting condition. How do you manage patients during periods of disease exacerbation and what strategies do you employ to prevent recurrence?

RS: Managing patients during a relapsing condition in thyroid eye disease requires a comprehensive approach. Here are some general strategies:

Regular Medical Follow-up: Ensure patients thyroid status in in normal.

Medication Management: Prescribe and monitor medications that can help control symptoms and prevent worsening of the condition. These may include Selenium, corticosteroids, immunosuppressive drugs, and eye drops to relieve discomfort.

Lifestyle Modifications: Encourage patients to adopt a healthy lifestyle with a balanced diet, regular exercise, and adequate rest, as these can contribute to overall well-being.

Eye Protection: Advise patients to protect their eyes from environmental factors, such as wind, dust, and smoke, which can aggravate symptoms. Sunglasses and artificial tears may be beneficial.

Stress Management, Smoking Cessation, encourage them to quit smoking, as it is linked to worsened thyroid eye disease symptoms.

Surgical Interventions: In severe cases or when vision is at risk, surgical options may be considered to address eye misalignment or decompress the optic nerve.

HK: 1st line treatment is steroid pulse without oral. In recurrence, plus radiation.

MN: Reactivation of TED occurs in 5% of cases, and would require treatment like any other active TED patient.

BL: During exacerbation of TED, Advise not to smoke, symptomatic relief with lubricants, head elevation, tapping go eye at night, IV Methyl Prednisolone 1 gm once daily for 3 days and then on oral prednisolone 1mg/Kg for 20-25 days on tapering dose. I may give temporary tarsorrhaphy if exposure is severe.

SS: Q8. TED can have a significant impact on a patient's quality of life, both physically and psychologically. How do you address the psychosocial aspects of TED in your management approach?

RS: When it comes to addressing the psychosocial aspects of TED in our management approach, we take a comprehensive and strategic approach. We can conduct in-depth market research to gain insights into our target audience's psychosocial characteristics. This includes understanding their values, beliefs, motivations, and social influences.

We can analyze our target audience's psychographic profiles to identify their psychosocial preferences and behaviors. This involves examining their lifestyle choices, interests, attitudes, and opinions. We incorporate emotional appeal into our marketing campaigns to address the psychosocial aspects of TED. By evoking emotions such as joy, excitement, empathy, or nostalgia, we aim to create a strong emotional connection with our target audience. This connection helps to build trust, loyalty, and positive brand associations.

By incorporating these strategies into our management approach, we ensure that we address the psychosocial aspects of TED and create marketing campaigns that resonate with our target audience on a deeper level.

HK: Orbital decompression often settle the psycho problem. Strabismus surgery has same effect.

MN: Most such cases demand cosmetic decompression for psycho-social reasons, and it is performed after discussing all the pros and cons. When required, I do take help from a psychologist, although that is rare.

BL: I try to understand their fear and reason for psychological disorder, if it's due to possible fear of losing sight or eye then I will give them honest review if I feel its outside Ophthalmology, I refer them to psychologist and sometimes I collaborate with endocrinologist for it.

SS: Q9. Can you share any memorable patient cases where the management of TED posed unique challenges or required innovative treatment strategies?

RS: Each patient is unique, and the approach to their management should be tailored to their specific needs and circumstances. It is important for us to stay updated on the latest research and guidelines to provide the best possible care for patients with TED. Here are few unique cases we had talked and to be talked in our practice.

1. TED with recurrent disease: Some patients may experience recurrent episodes of TED, with periods of remission followed by flare-ups. Managing these cases can be challenging, as treatment strategies need to focus on preventing or minimizing the frequency and severity of flare-ups. This may involve long-term maintenance therapy, regular monitoring, and need a team to identify triggers and adjust treatment as needed.
2. Severe TED with contraindications to steroids: In some cases, patients with severe TED may have contraindications to corticosteroid treatment, such as uncontrolled diabetes or severe

intractable gastritis. Managing these patients can be challenging, as alternative treatment options need to be explored, such as targeted biologic therapies like teprotumumab, it is still not available and affordable to developing countries or go for immunomodulators.

3. TED in pregnancy: Managing TED in pregnant patients requires careful consideration of the potential risks and benefits of treatment options. Some medications used to treat TED, such as corticosteroids or biologic therapies, may have potential risks to the developing fetus. In these cases with close monitoring, conservative management, and collaboration between endocrinologists, ophthalmologists, and obstetricians to ensure the best possible outcome for both the mother and the baby.

HK: Nil

MN: We do see patients with proptosis and levator dis-insertion presenting together. We have combined these surgeries into one procedure, and have also reported our experience in the year 2021. These cases are most challenging, and require the innovation of levator reattachment and orbital decompression in the same sitting.

BL: I had a 45 years Rai male patient, whose moderate TED was worsening superfast to Severe TED. I was wondering why he was worsening so quickly though he stopped smoking and on IV methyl Prednisolone pulses already receiving 4th dose (500mg). Later I realize his orbital volume was too small with some craniofacial anomalies. So, I quickly decide to performed surgical orbital decompression and able to stabilize his TED.

SS: Q10. In your opinion, what are the most critical areas for improvement in the current management of TED?

RS: In developing countries like in ours, there are several critical areas for improvement in the current management of Thyroid Eye Disease (TED). These areas include:

1. Access to specialized care: One of the key challenges in developing countries is limited access to ophthalmologists and endocrinologists who are experienced in managing TED. Improving access to specialized care is crucial to ensure early diagnosis, appropriate treatment, and long-term management of TED.

2. Awareness and education: There is a need to increase awareness and education about TED among primary care physicians, so that they can recognize the signs and symptoms of TED and refer patients to appropriate specialists. Public awareness campaigns can also help patients recognize the early signs of TED and seek timely medical attention.

3. Availability of diagnostic tools: Developing countries may face challenges in accessing advanced diagnostic tools, such as orbital imaging (CT or MRI scans), which are essential for accurate diagnosis and monitoring of TED. Efforts should be made to improve the availability and affordability of these diagnostic tools in order to facilitate early detection and appropriate management of TED.

4. Treatment options: In developing countries, there may be limited availability of treatment options for TED, such as immunosuppressive medications, biologic therapies, or surgical interventions.
5. Multidisciplinary approach: TED requires a multidisciplinary approach involving collaboration between ophthalmologists, endocrinologists, and other healthcare professionals. Developing countries should strive to establish multidisciplinary teams and promote collaboration among healthcare providers to ensure comprehensive and coordinated care for patients with TED.
6. Research and data collection: There is a need for more research and data collection on TED in developing countries to better understand the prevalence, risk factors, and outcomes of the disease in these populations. This can help inform local guidelines and improve the management of TED in these settings.

By addressing these critical areas, developing countries can improve the management of TED and ensure better outcomes for patients affected by this condition.

HK: Corneal involvement and optic nerve squeeze by apical crowding.

MN: I think the most challenging part of managing TED patient is the double vision. Hopefully, medical therapies of the future will avoid this condition altogether, or treat it completely, thereby obviating the need for surgery.

BL: Patient awareness for TED together with timely eye examination, collaboration of endocrinologist/Physician, psychologist and ophthalmologist are lacking in the country at present and availability of medicines including IV Methyl prednisolone / immunosuppressive drugs can be a game changer in management of TED.

Dr SS: I would like to express my heartfelt appreciation to the esteemed panel of experts for their generous contributions in giving their thoughtful insights regarding the thyroid eye disease and its comprehensive management strategies. I believe this will be of immense value to our readers and it will surely help to enhance the understanding and approach to addressing thyroid eye disease effectively. Thanks.

Review article:

Clinical Overview of Orbit- A Pandora's Box

Authors: Dr Sushant Adiga
Affiliation: Tilganga Institute of Ophthalmology, Kathmandu,

Greek Mythology

According to ancient greek mythology, Pandora was created by Hephaestus, the god of fire. The god of the sky, Zeus, blessed her with unsatiable curiosity and then gave her a jar and told her never to open it. It was not long before curiosity got to her and she opened the jar. All the evils that were contained in the jar escaped at once and hovered over earth. It gives the message that "somethings are best left untouched, for fear of what might come out of it."

Pandora's Box suggests the extremely dangerous consequences of tampering with the unknown. The orbit is referred to as the "Pandora's box" due to its complex anatomy as it contains very important and delicate structures within. If the anatomy is not understood completely before surgery in the orbit is undertaken, it may cause more harm than benefit to the patient.

The orbit is a pyramidal-shaped structure with a volume of approximately 30cm3 which contains the eyeball and other supporting structures. The eyeball lies in the anterior orbit closer to the roof and lateral wall. The lateral orbital rim is approximately at the level of the eye's equator. Its maximum dimension is 1cm behind the orbital rim corresponding to the widest point of the orbital cavity.

The seven bones forming the orbit include the maxilla, palatine, zygomatic, sphenoid, frontal, ethmoid, and lacrimal bones. They

The dimension of orbit varies from patient to patient. A surgeon cannot rely on specific measurements as a guide to the precise location of the optic canal/ superior orbital fissure.

Care should be taken when injecting fat into the posterior orbit of an anophthalmic patient as the cannula could penetrate the intracranial cavity.

develop from neural crest cells and are present by the third month of gestation.

Orbital rim

• Roof: Frontal bone
• Medial border: Frontal bone, frontal process of maxilla
• Inferior border: Zygomatic process of maxilla, Zygomatic bone
• Lateral border: Frontal process of zygomatic bone, Zygomatic process of frontal bone

An important landmark in the orbital rim is the supraorbital notch, which is present in the medial third of the superior orbital margin. The supraorbital neurovascular bundle forms a notch in two-thirds of the population and a foramen in the rest. It is imperative to avoid injury to the nerve during brow lifting surgery, during coronal flap approach to superomedial orbit, and during superomedial anterior orbitotomy procedures.

Another important point to consider is the location of major vessels while giving local anesthesia along the orbital rim. It is mandatory the withdraw the plunger before injecting in these areas.

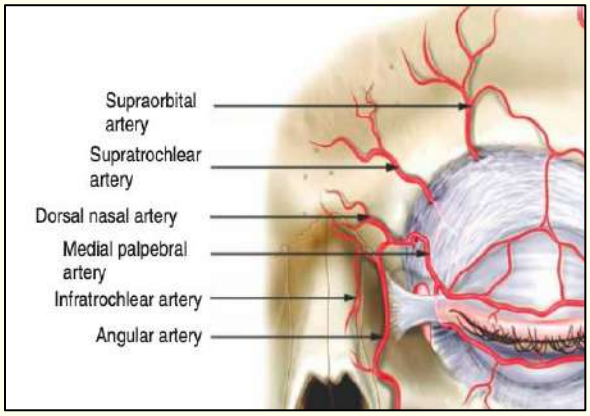


Figure 1: Diagram depicting the major vessels along the orbital rim

The inferior orbital foramen lies 4-8 mm below the inferior orbital margin. Injury to the inferior orbital neovascular bundle can be avoided during Orbital floor blowout fracture repair and mid facelift procedures.

Medial wall

The lacrimal sac fossa is an important landmark in the medial wall. The anterior lacrimal crest and the anterior part of the lacrimal sac fossa are formed by the Frontal process of maxilla. Whereas, the posterior part of the lacrimal sac fossa is formed by the lacrimal bone, which is small, thin, and fragile. Lamina papyracea (a papery thin bone) forms the lateral wall of the ethmoid sinus and offers little resistance to blunt trauma and the spread of infection from ethmoid sinuses to orbit.

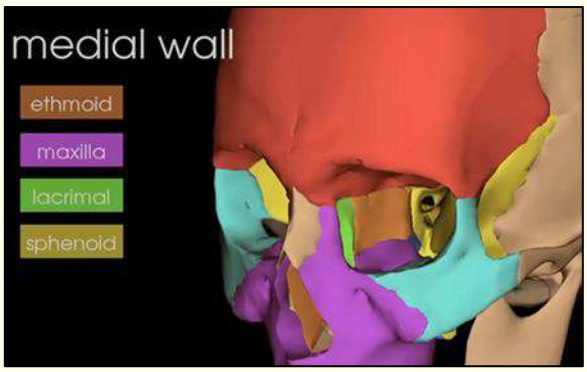
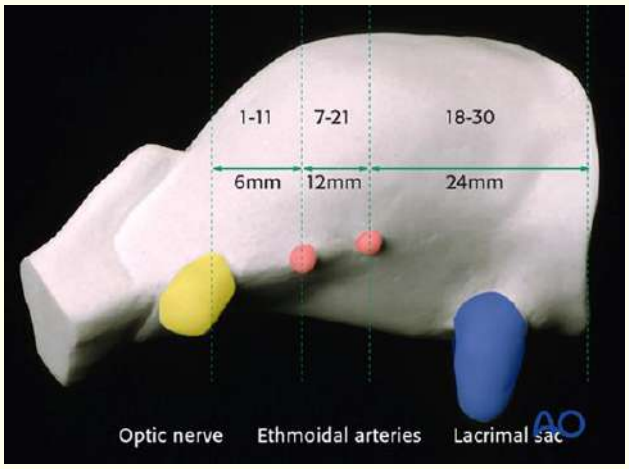


Figure 2: Diagram showing the medial wall and its constituent bones

Anterior and posterior ethmoidal foramina lie along the frontoethmoidal suture line. They transmit branches of the ophthalmic artery and nasociliary nerve. Damage to these arteries results in severe bleeding and the formation of a sub-periosteal hematoma. Hence, they are cauterized during orbital exenteration surgery and avoided completely during medial wall decompression surgery.

Important landmarks along the medial wall are described as measurements from the anterior lacrimal crest:



• 24 mm to the anterior ethmoidal foramen
• 12 mm to posterior ethmoidal foramen
• 6 mm to the optic canal

Figure 3: Important landmarks along the medial wall

Floor of Orbit

The floor of the orbit ends at the posterior wall of the maxillary sinus (inferior orbital fissure). It does not extend to the apex of the orbit.

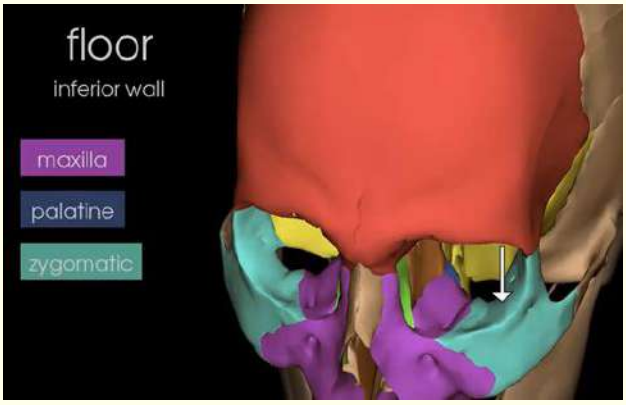


Figure 4. Bony constituents of the floor of the orbit

The thinnest part of the orbital floor lies medial to the inferior orbital canal/groove. This part is usually affected by blow-out fractures and tumors of the maxillary antrum. Trauma to the infraorbital nerve results in anesthesia of the cheek, the lower eyelid, the lateral aspect of the nose, the upper lip, and anterior teeth which are commonly seen in patients with orbital blow-out fractures.

• Ethmoiditis is the commonest cause of orbital cellulitis in children. Lamina papyracea is commonly eroded by chronic inflammatory lesions, cysts, and neoplasms
• The cribriform plate lies just medial to the roof of the ethmoid sinuses and may extend 5-10 mm below the level of the fronto-ethmoidal suture line. Hence, one must be very careful during surgeries along the medial wall (orbital decompression surgery).
• The anterior cranial fossa lies around 1-2mm above the superior border of MCT. So, it is mandatory not to extend the osteotomy beyond the level of the MCT during DCR surgeries.

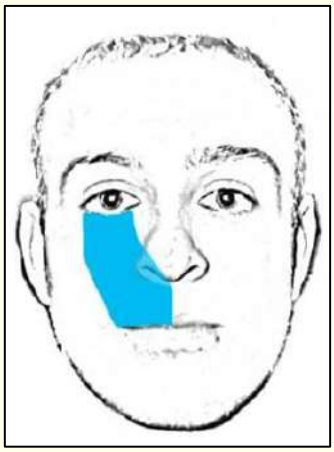
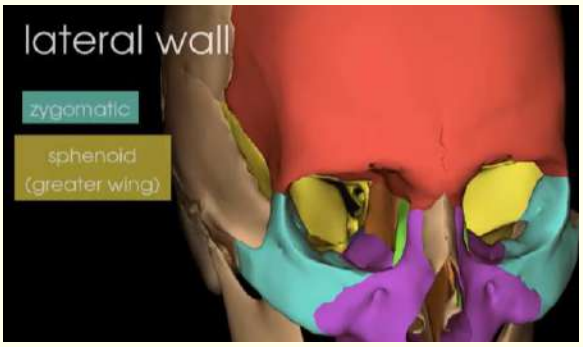


Figure 5: Picture depicting the area of anesthesia after injury to the infraorbital nerve

Lateral Orbital wall

It is the thickest orbital wall. Inferior orbital fissure separates the lateral wall from the orbital floor. A superior orbital fissure partly separates the lateral orbital wall from the roof of the orbit. The lateral wall protects only the posterior half of the eyeball.

Two foramina perforate the lateral orbital wall just behind the lateral orbital margin and transmit the zygomaticotemporal and zygomaticofacial neurovascular bundles (maxillary divisions of the Trigeminal nerve). It is severed during surgeries of the lateral orbital wall (lateral orbitotomy) which results in a small area of hypoesthesia over the zygoma and temple.



Orbital Roof

It is triangular in shape and formed by the orbital plate of the frontal bone and the lesser wing of the sphenoid bone. The anterior superolateral aspect of the roof has a shallow concavity wherein lies the lacrimal gland.

The posterior openings in the orbit namely the optic canal, superior and inferior orbital fissure transmit important nerves and vessels to the orbit. At the optic canal and medial end of the superior orbital fissure, the periorbita forms the annulus of Zinn, to surround and form the origin of the four rectus muscles.

The bone of the orbital roof is very thin. In older patients, areas of bony dehiscence may be present. Hence, great care must be taken when elevating the periorbita of the roof as one may encounter exposed dura and perforate it, leading to CSF leak.
Mucocele from the frontal sinus can extend to the orbital cavity. Sharp sticks or pointed metallic objects introduced into orbit through the upper lid penetrates the roof and may damage the frontal lobe.

Superior orbital fissure

The superior orbital fissure is the direct communication between the orbit and the cranial cavity. Any infection may spread from the orbit through this fissure to the cranial cavity and cavernous sinuses.

Superior Orbital Fissure Syndrome
-Caused by fracture through the orbital roof
-Presents as ophthalmoplegia, ptosis, proptosis, and loss of sensation throughout the distribution of the trigeminal Nerve.

Orbital Apex Syndrome
-Superior Orbital Fissure Syndrome accompanied by blindness (involvement of the optic nerve)

Safe surgical exploration

• Generally, an exploration depth of 25 mm along the lateral and inferior walls is regarded as safe.

• A 30 mm distance from the supraorbital rim and the anterior lacrimal crest is also considered safe exposure of the roof and the medial wall respectively.

• The periorbita can be safely elevated outside the annulus of Zinn and the superior orbital fissure. Deep dissection of the periorbita stops at this level.

• A safety margin of 1 cm anterior to the optic canal must be maintained during the dissection and reconstruction of the orbital walls.

Arterial supply and venous drainage

The internal carotid artery provides the main arterial blood supply to the orbit and the globe. The main orbital arteries arise from the ophthalmic artery. The terminal branches of the ophthalmic artery are anastomose with terminal branches of the external carotid artery.

Venous blood is drained from the orbit through three main systems, namely: cavernous sinus, pterygoid plexus, and anterior venous system. The superior ophthalmic vein drains to the cavernous sinus. The inferior ophthalmic vein drains both to the superior ophthalmic vein and also to the pterygoid plexus.

Conclusion

• Learning and understanding the anatomy of the orbit is the most basic and yet most important part for making correct clinical judgement and efficiently manage the orbital diseases.

• The intricate and delicate structures within the orbit can host multitude of pathologies. The proficient knowledge of orbital anatomy enables practitioners understand the complex presentations, interpret diagnostic imagings with precision and make treatment plans according to individual patient needs.

• By recognizing the anatomical variations and relationships within the orbit, clinicians can diagnose conditions promptly, avoid complications, and optimize therapeutic interventions. It also helps clinicians to anticipate potential anatomical challenges during surgical procedures and minimize risks.

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Corresponding author:
Dr Sushant Adiga
Tilganga Institute of Ophthalmology
sushant.1547@gmail.com

Article

Gateway to Orbital Surgeries: A journey inside Pandora box

Author: Dr Ben Limbu, MD, Assistant Professor of Ophthalmology
Consultant Ophthalmic Plastic & Reconstructive Surgery
Affiliation: Global Eye Hospital (Kathmandu & Itahari), Nepal

Abstract

Orbital surgeries are complex and difficult due to compactly packed vital ocular structure within narrow bony cavity. Safe and effective results can be yield in orbital surgeries if the surgery is adequately planned. The author provides a comprehensive review of the most commonly used periorbital approaches in management of orbital pathologies with emphasis on sharing some crucial operative tips.
Keywords: Orbital surgery, Orbital lesions, orbital approaches, Orbital anatomy

Introduction

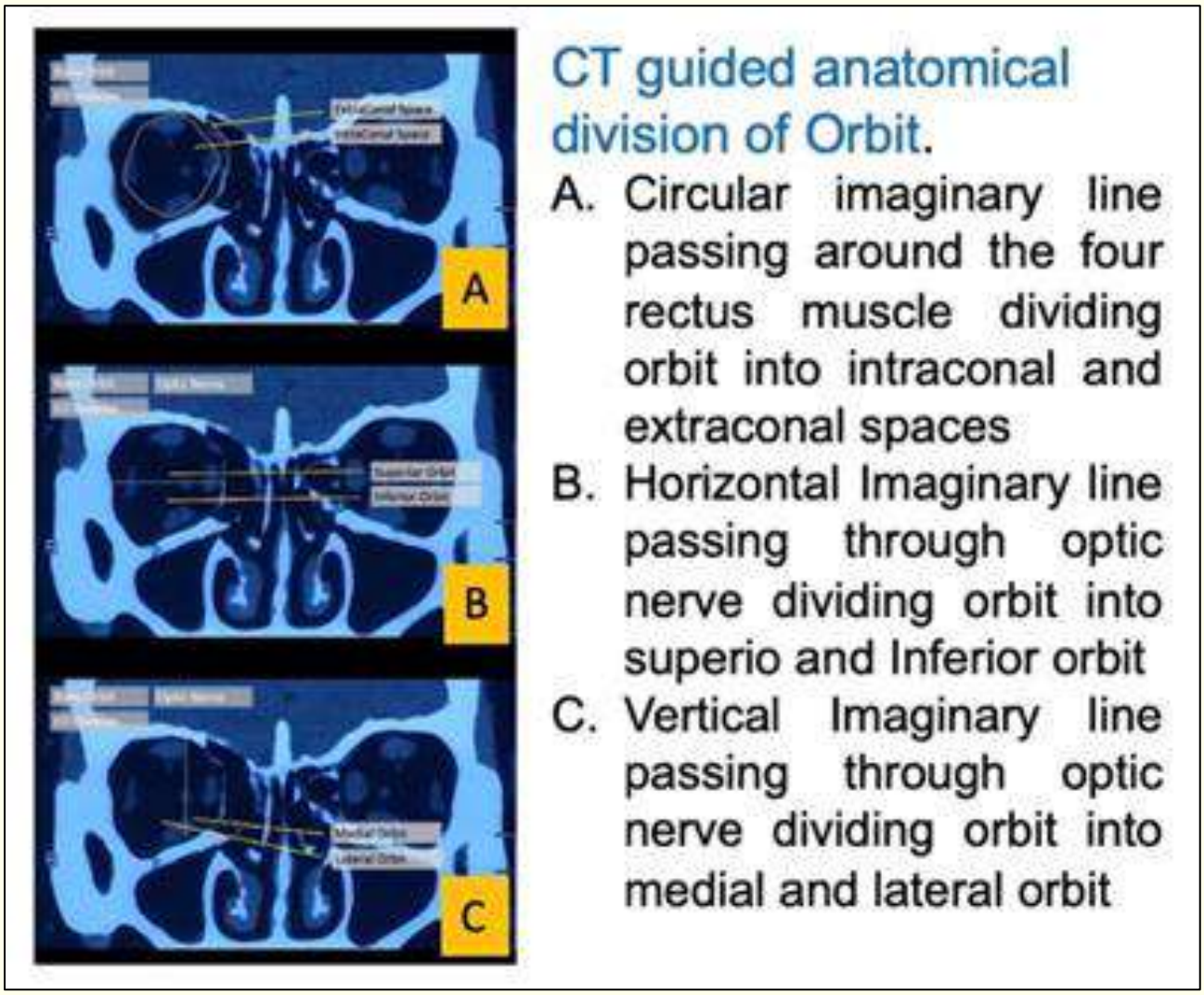
Orbital surgeries if performed in optimal approaches with proper preoperative plan can give great results in term of saving patient life, vision and to restore facial cosmesis especially in thyroid orbitopathy or other orbital pathologies that can lead to proptosis. Common indications for orbital surgeries are infectious disease like orbital abscess, orbital bone fractures, post traumatic orbital hemorrhage, both benign and malignant orbital tumors, benign or malignant lesion expanding into orbital space from surrounding structure like maxillary or frontoethmoidal sinus, optic nerve fenestration surgery and Congenital cranioorbital anomalies (Crouzon Syndrome).

Orbital tumor removal through lower lid trans-cutaneous route was first described by Thomas Hope (1744) of Scotland in a young girl with preservation of the globe. Hope credited his mentor, the famous French ophthalmologist, St. Yves, as having first successfully performed such an operation1

Challenges

Orbital surgeries are more complex due to presence of vessels, abundant fat, optic nerve, muscles lacrimal gland, nasolacrimal apparatus and other cranial nerve packed around the tiny compact orbital cavity. Due to

this reason, trauma to muscles, nerves, vessels and eyeball are potential complications of orbital surgery. In addition, visualization of orbital structure poses greater challenge in orbital surgeries due to limited orbital spaces and prolapsing nature of orbital fat. Because of this, cauterization and control of bleeding is more difficult when it comes to bleeding from deep orbital vessels. Orbital lesions in deeper orbital space near apex is more challenging due to conical shape with very limited space to reach that particular.

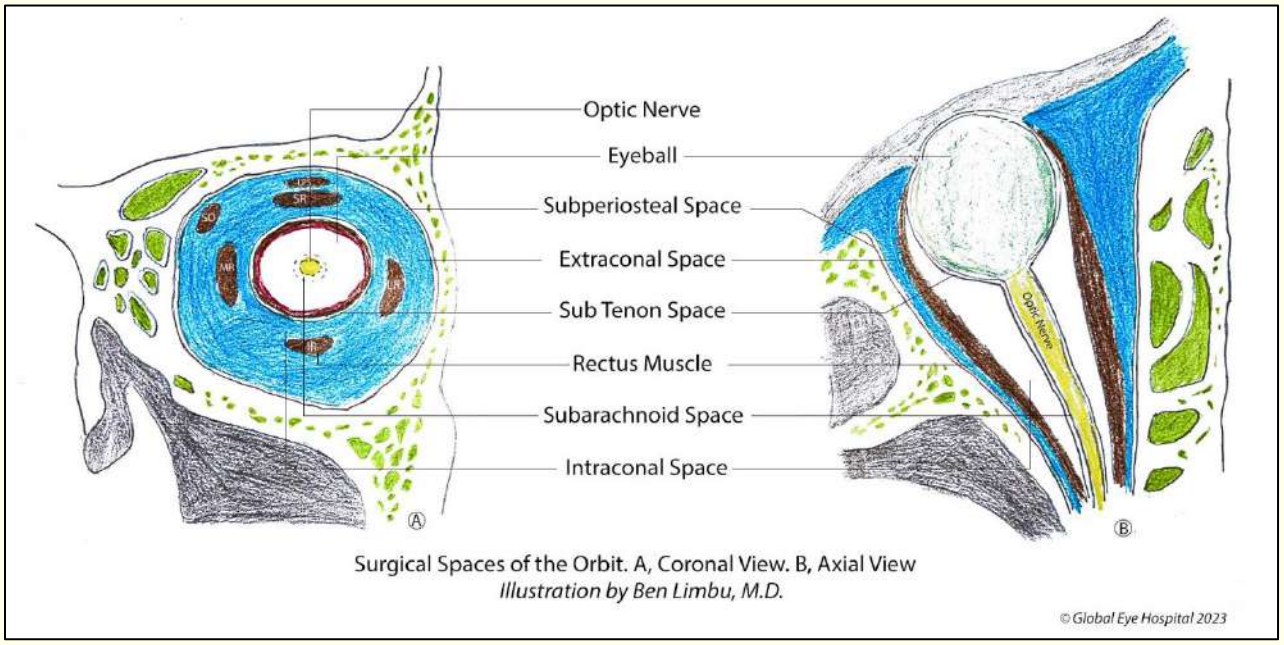


Surgical Anatomy of Orbit

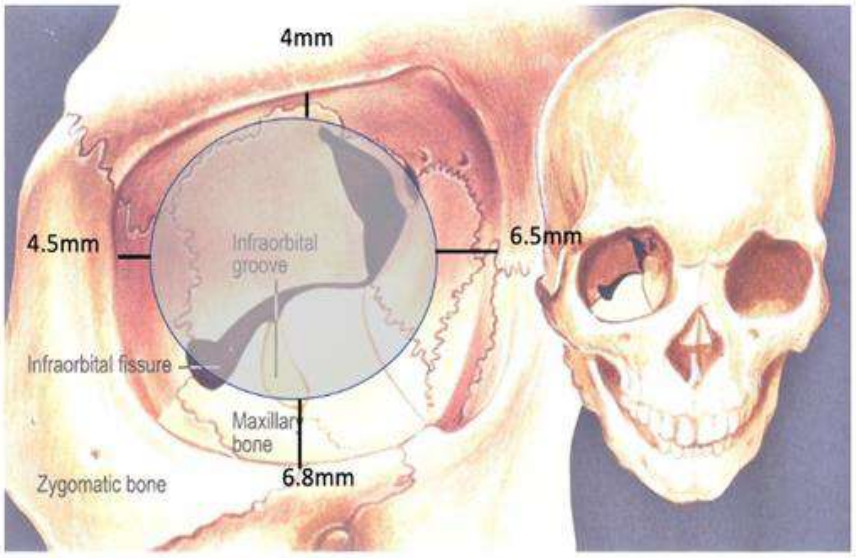
There are 5 orbital spaces within the orbital spaces categorized based on anatomical landmarks. These spaces can help surgeon to access specific location of their interest.

Intraconal space lesion poses greater difficulties in compare to extraconal lesions due to presence of muscles, facial sheath and delicate structures within the space. Rectus muscle temporarily disinsertion can significantly help to remove intraconal lesions.

Superior deeper tumors/lesions are similarly difficult to access as the gap between superior orbital rim and eyeball is minimal (4mm). Though space between lateral orbital rim and eyeball is less (4. 5mm), the deeper spaces lesions here are easily access by creating bony window through lateral orbitotomy approach. But this is not possible in superior deeper orbital lesions. Gentle eyeball retraction during surgery can facilitates greater view of dee superior orbital spaces.



Surgical Spaces of the Orbit. A, Coronal View. B, Axial View
Illustration by Ben Limbu, M.D.



Eyeball to Orbital rim measurement on skull model.

Minimal space between orbital rim to eyeball is Superior to eyeball which is 4mm and maximum gap is between inferior orbital rim and eyeball

Surgical Approaches

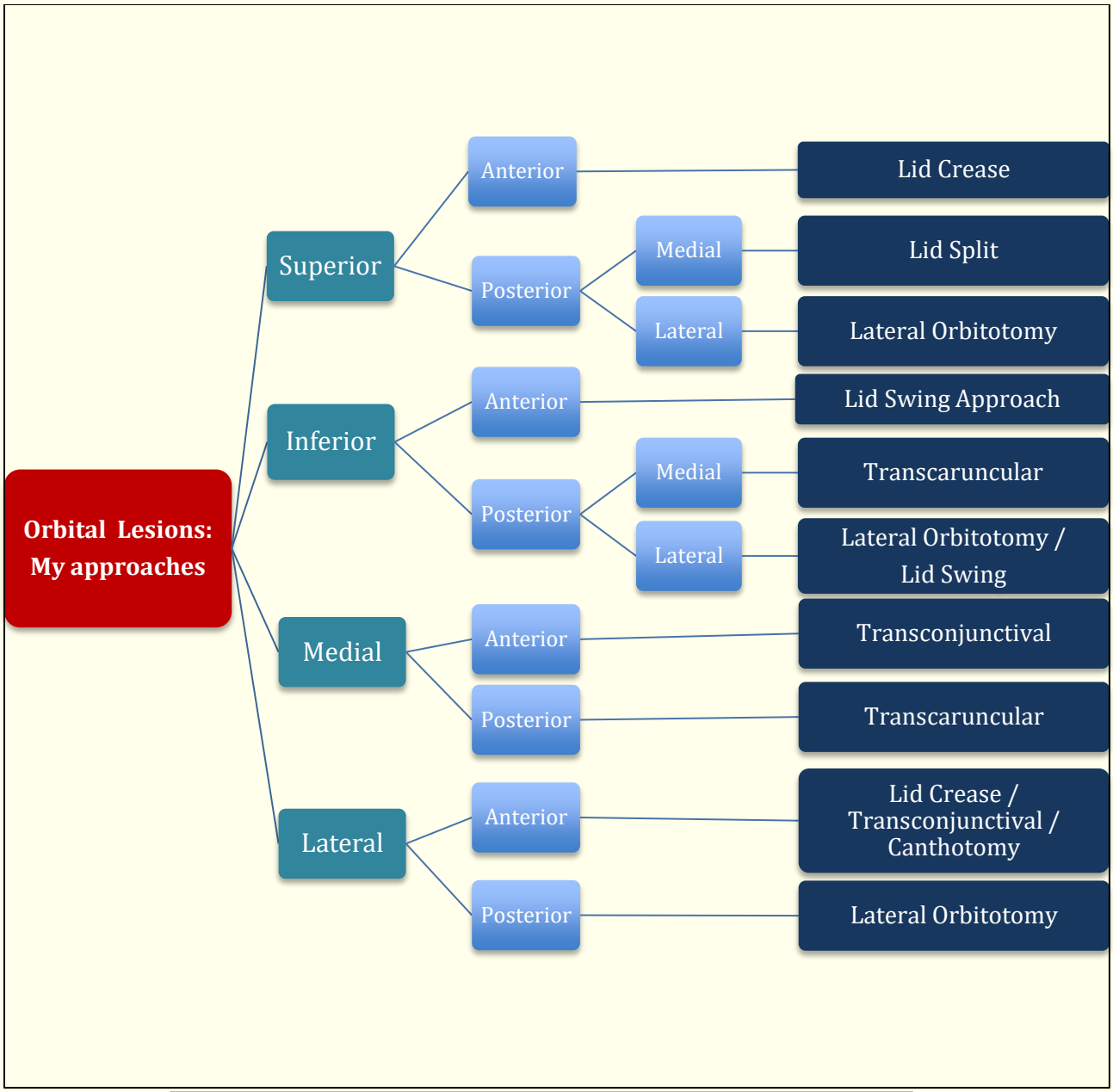
Orbital Surgery are critical due to it complex structures within narrow space, it's important to perform orbital surgery with minimal damage to normal structure. Sometime careful watch on the difference between the color saturation of various structure to identify normal from abnormal lesion, at the same time it's important to feel the structure consistency hard or soft to provide clue on the normal to abnormal lesions. Gentle touch sensation with possible finger size inside the orbital cavity can provide possible location and extent of lesion. Orbital lesions approaches are guided by location, size and shape of tumor, vision potential, nature of pathology, extension of lesion into surrounding area and goal of surgery(excision or Incisional biopsy).

Isolated orbital apex located lesions or lesion involving orbit to intracranial space or vice versa can be best approach through transcranial route combined with neurosurgery team. Similarly, lesion present posteriorly in medial orbital spaces can be access through endonasal endoscopic approach. Other surgical approaches in my practice are listed in the given flow chart. Following are some important guidelines to perform orbital surgery safe and effectively:

1. Good exposure with adequate visualization : Use appropriate retractors and good illumination
2. Bloodless surgical field : Use cautery or place bone wax with direct visualization of bleeding vessel, use finger or periosteal levator for dissection
3. Atraumatic manipulation of orbital space : direct visualization together with blunt dissection of tissue into orbital cavity
4. Do not cross optic nerve plane when lesion is intraconal: do not access lesion opposite to optic nerve instead access that lesion from opposite side appropriate surgical approach

Sometime lesions are not isolated to single space of the orbital cavity in such cases don not hesitate to make multiple approaches to access lesion minimizing damage to crucial structures like optic nerve and muscles. Some orbital lesions demand a team work between oculoplastic surgeons, Pediatric & Strabismus specialists, ENT surgeons, maxillofacial and Neurosurgeons.

Use of appropriate retractors are of important value in direct visualization of orbital lesion, however prolong pressure on eyeball can lead to pupillary dilatation. In contrast to pupillary dilatation due to intraoperative optic nerve trauma, pupillary dilatation due to eyeball pressure is temporary. One can check this by removing all instruments causing eyeball pressure. Ciliary ganglion trauma during surgery can also leads to pupillary dilation especially dealing with intraconal lesions through lateral orbitotomy, and normal vision together with fixed dilated pupil is confirmatory finding of ciliary ganglion trauma.



Flow chart of Surgical approaches according to orbital location

Major complications of orbital surgeries are ptosis, lagophthalmos, eyelid malposition, Eyelid retraction, diplopia, orbital hemorrhage, nasolacrimal apparatus injury, ciliary ganglion and optic nerve ischemia and direct injury. In addition, poor pre planning and inappropriate orbital surgical approaches can lead to excessive orbital tissue injury and sometimes unable to reach to orbital pathologies.

Illustrations of Crouzon Syndrome face photo: portrait and facelift position. A. Before surgery B. After Surgery

5 years male, known case of Crouzon Syndrome presented with bilateral protrusion of eyeball since birth. Left eye had several attempts of lateral tarsorrhaphy for severe exposure keratopathy. He presented to us with bilateral proptosis and alternate divergent squint. Left eye chemosis and diffuse superficial puntate keratopathy. Otherwise anterior and posterior segment normal findings.
Hertels reading 96mm, OD 22mm OS 22mm
Ocular motility Full
Vision 6/12 OU
Pupil RRR
Patient underwent 3 wall decompression (Lateral, floor and medial wall)
1 month Post op
Hertels 96mm, OD 22mm OS 17mm
Ocular motility Full
Vision 6/12, 6/9 PH 6/6 OU
Pupil RRR

Conclusion

Safe surgical access to the orbit can be challenging given the complex anatomy and delicacy of the orbital structures. Careful planning is required to determine the ideal approach. Availability of equipment with surgeon's skill and experience in instrumentation & proper pre-operative judgement significantly influence in choosing right surgical approach and effective management of orbital lesions.

Source of funding Nil

Conflict of Interest None

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Corresponding author:

Dr Ben Limbu
Global Eye Hospital, Nepal
Info@globaleyehospital.org

Clinical case

Orbital Myiasis: A Rare Entity

Author: Dr Sadichhya Shrestha, 2nd Year Resident
Affiliation: Tilganga Institute of Ophthalmology

Introduction:

The term "myiasis," derived from the Greek word "Myia" meaning fly, refers to the infestation of living tissue by fly larvae or maggots in humans and other vertebrate animals.[1] Ophthalmomyiasis pertains to infections of the eye and ocular adnexa. Among these, the orbital form of ophthalmomyiasis is particularly perilous. Human orbital myiasis occurs when a substantial number of larvae invade and destroy the contents of the eye socket (orbit).[2] Despite its rarity, with only a handful of reported cases worldwide, it represents a highly uncommon condition, contributing to less than 5% of all human myiasis cases.[3]

Etiopathogenesis:

Myiasis involves the invasion of living tissues by the eggs or larvae of flies from the Diptera order. The most common flies responsible for human infestations globally are Dermatobia hominis (human botfly) and Cordylobia anthropophaga (tumbu fly).[4] Chrysomyia bezziana (found in Africa, Australia, and Asia) leads to wound myiasis, while Oestrus ovis (sheep botfly) triggers ophthalmomyiasis. Infestations affecting the eye and ocular adnexa are referred to as ophthalmomyiasis.[5] However, larvae such as C. hominivorax (which causes wound myiasis) can infest the head's orifices and potentially burrow into brain tissue.[6] The majority of recorded patients with myiasis hail from tropical regions, possess a low socioeconomic status, and frequently come into contact with animals. Parasitic larvae, especially in neglected cases, lead to significant orbital tissue loss, pronounced inflammatory reactions, and secondary bacterial infections. The extent of infestation can range from a single larva to multiple, contingent on the fly genus. Typically, myiasis affects periorbital tissues and can be exacerbated by cancer, surgery, ischemia, or infection. It primarily manifests in rural areas of developing nations where hygiene standards are suboptimal and fly populations are abundant. Predisposing factors include crowded living conditions, debilitation, low socioeconomic status, and inadequate personal hygiene. Orbital myiasis can also occur in individuals in close proximity to sheep or goats during the early summer to late rainy season, especially if they've been stung or struck by insects, leading to pain and inflammation. Failure to seek prompt medical care attracts female flies, resulting in larval deposition on the conjunctiva, eyelids, or both, often leading to complete loss of orbital contents. In neglected cases, orbital wounds can become the site of common

myiasis occurrences, causing significant tissue destruction, severe inflammation, and secondary infections. In severe instances, larvae may invade beyond the orbit, creating mucosal sinuses and potentially invading the intracranial space, posing a life-threatening situation.[7]

Clinical Features:

Patients commonly present with complaints of itching, pain, and a foreign body sensation. Orbital lesions are usually extensive ulcerated masses with a foul odor. Necrotic tissues, crusts, scabs, and granulation tissue are seen within and around the wound. Purulent discharge and maggots may be visible.2 Patients may experience crawling sensations and observe maggots wriggling and falling from the wound. Predisposing factors such as neglected wounds, infected lesions, basal cell carcinoma, poor hygiene, and ischemia may also be evident. Patients generally visit for alleviating pain, improving cosmesis, and providing psychological relief.

Management:

Managing orbital myiasis necessitates a comprehensive approach that addresses local treatment of myiasis as well as the underlying predisposing factors. Once the larvae emerge or are removed, lesions tend to resolve quickly. Treatment options span from manual removal of maggots to more invasive procedures involving the globe and orbit, such as exenteration.[2] The extent of orbital involvement can be determined through contrast-enhanced computed tomography or magnetic resonance imaging, aiding in assessing the spread and guiding treatment decisions.[1] Simple manual removal of maggots can suffice for less severe cases, whereas more invasive procedures might be required for extensive infestations. Successful treatment outcome hinges on factors such as the degree of invasion and underlying predisposing conditions. Effective removal of all invading organisms remains the primary focus for less severe cases. Various substances such as hydrogen peroxide, chloroform, ether, ethanol, and turpentine have been used to facilitate maggot removal. Managing secondary infections is crucial in orbital myiasis. In severe cases involving malignancy or extensive invasion, exenteration might be necessary to prevent further spread to the brain.[2] Ivermectin, a broad-spectrum antiparasitic drug, has emerged as a successful noninvasive treatment for orbital myiasis at a single dose 150 mcg/kg body weight. Before considering surgical debridement, the use of Ivermectin is recommended to minimize invasive interventions and challenges associated with mechanically removing larvae during significant orbital invasions.[7]

Conclusion:

Orbital myiasis is an uncommon yet potentially devastating condition due to its proximity to the brain and potential for cerebral invasion from the orbital apex. Imaging plays a crucial role in assessing the extent of invasion and guiding management decisions. Preventive measures and early intervention through local and systemic approaches can avert drastic measures such as orbital exenteration.

***Figure 1**: Appearance of lesion and larval involvement in the right eye of an 86 year-old man with long standing basal cell carcinoma.*

Figure 2: Larva removed from the lesion.

***Figure 3:** Appearance of lesion after eradication of larva.*

Acknowledgement: Dr Hom Bahadur Gurung, Dr Dikshya Bista, Dr Sushant Adiga and Oculoplastic Department of Tilganga Institute of Ophthalmology

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Corresponding author:

Dr Sadichhya Shrestha,
2nd Year Resident
Tilganga Institute of Ophthalmology

Clinical case

Pediatrics orbital abscess (Chandlers' classification III)

Author: Dr. Tina Shrestha
Affiliation: Department of Ophthalmology, Dhulikhel Hospital, Kathmandu University, Nepal

Introduction

Orbital cellulitis is an inflammatory process that involves the tissue located to posterior to the orbital septum within the bony orbit, but the term generally is used to describe infectious inflammation. Although orbital cellulitis can occur at any age, it is more common in the pediatric population.

Case description

A case of 9 years old male child from Sindhupalchowk, presented with swelling of right eye for ten days, which was gradual in onset, first noticed in lower lid of right eye preceded by toothache on right side along with swelling of cheeks and infraorbital region, gradually increased in size, associated with fever and pain, Incision and drainage of pus done under local anaesthesia and sent for culture and sensitivity. The patient was admitted into the hospital with intravenous antibiotics. Imaging diagnosed subperiosteal abscess, i.e. chandlers' classification III. On pus culture, the organism reported was enterococcus sp.

The patient was kept in closed monitoring, After 2 weeks, he felt better with full motility and much improved erythema and edema of her right eye. For proper management and prevention of complications we ensured multidisciplinary approach including ENT and Dentist Departments.

Discussion

Orbital cellulitis is an infrequent but serious complication of sinusitis which usually appears as an acute infection. Ethmoid sinusitis is most common origin of orbital cellulitis at all ages and certainly predominates in young children who have not yet formed their frontal sinus.

It is therefore important that clinicians should be aware that orbital cellulitis may occur without signs of acute inflammation so that patients can be admitted to hospital and parenteral therapy started without delay. Chemosis, globe displacement, and decreased ocular movements are signs of orbital involvement.

Orbital cellulitis begins with general signs and symptoms such as severe eyelid redness and edema (71.5-100%), ptosis (10.6-33.3%), conjunctival chemosis (32-45.3%), discharge (16.7%), erythema of periorbital tissues, and periocular pain or pain with eye movement (39.2-63%). As the infection progresses, there are signs that can help differentiate between more superficial infections and Orbital Cellulitis such as proptosis and globe displacement (46.9-100%), decreased vision (12.5-37%), afferent pupillary defect (5.5-16.7%), impaired color vision (16.7%) and limited ocular motility (39.1-84.6%)

Conclusion

Without prompt diagnosis and proper treatment, the infection of the orbit can progress and extend to the adjacent anatomical locations and result in serious complications.

Figure A. At Presentation

Figure B. MRI Scan at presentation

Figure C. After 1 week

Figure D. At time of discharge (2 week)

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Corresponding author:

Dr Tina Shrestha
Dhulikhel Hospital, Kathmandu University, Nepal
khoju.tinashrestha@gmail.com

Clinical case:

Case report: An orbital tumor

Authors: Dr. Suhana Shrestha[1], Dr. Diwa Hamal[2], Dr. Chandra Maya Gurung[3], Dr. Sameer Neupane[4]

Affiliation: [1]Resident; [2]Consultant Oculoplastic Surgeon; [3]Consultant Pediatric Ophthalmologist; [1,2,3] Nepal Eye Hospital; [4]Consultant Pathologist, Medi Quest Laboratory Clinic

Introduction

Orbit is a quadrilateral bony cavity for eyeball, muscles, nerves, vessels, lacrimal apparatus, connective tissue and orbital fat. It is a pandora's box as orbital mass can have vague differential diagnosis. A case of proptosis can relate to pathology of any of these structures. Our differentials may range from an infection, inflammation or any space occupying lesion or tumor of these orbital structures or even the structures of the cranium. Cavernous hemangioma is the most common benign orbital tumor in adults. While the most common malignant orbital tumor in adult is lymphoproliferative lesions of the orbit and adnexa. Sometimes the tumor of the eye might be a metastasis with an origin from a primary cancer from other parts of the body like breast, lungs or bone. The ultimate diagnosis and treatment plan relies on a careful history and detailed clinical examination followed by the judicious use of ancillary diagnostic testing and a comprehensive treatment plan [1].

Case description

A 45 years old female presented with painless progressive swelling in her left eye over past 4 years that slowly pushed the eyeball downwards and outwards. There is no history of pain, diplopia, reduced vision, erythema, or any palpable mass around the eye ball. She gives no history of thyroid disease, sinus disease, carcinoma, diabetes, tuberculosis, sarcoidosis, neurofibromatosis, and injury to head and face. There is no history of ocular disease, cancer, systemic familial disease in the family. There is no history of sudden weight loss or smoking. For this condition, she had visited multiple centers and finally visited our center on 2022-09-02. On examination at our center, there was eccentric non pulsatile proptosis in her left eye with mild lid retraction, hypotropia, exotropia and conjunctival chemosis. We could feel a rubbery, nontender smooth mass underneath

the upper eyelid. Her vision was 6/6 OU and extraocular motility of OS restricted on elevation, dextroelevation, levoelevation, intorsion and extorsion. The pupil was round, regular and reactive with no RAPD, with normal fundus findings.

Figure A: Comparative pre-operative and post-operative pictures

Her first MRI scan was done on 2018-12-28 which revealed relatively well defined, 22x20 mm extraconal intra-orbital enhancing rounded soft tissue lesion in the superior compartment of the left orbit likely to be a cavernous hemangioma or a neurogenic tumor. Hence our provisional diagnosis was left eye proptosis secondary to neurogenic tumor and differential diagnosis were orbital proptosis secondary to cavernous hemangioma and pleomorphic adenoma. Her MRI was repeated that showed a large well defined, smooth outline complex signal intensity lesion 28x30x23 mm in the superior extraconal compartment of the left orbit with mass effect causing indentation and compression on the left superior rectus muscle, and the supero-posterior sclera of the left eyeball displacing the eyeball inferiorly and outward without intraconal/ intracranial or paranasal sinus extension. Both the lateral and 3rd ventricles were dilated. Also, there is a basilar invagination of C2 dens causing indentation and compression on the medulla oblongata and upper cervical spine at C2-C3 level. Thereby concluding it to be a cavernous hemangioma or a neurogenic tumour.

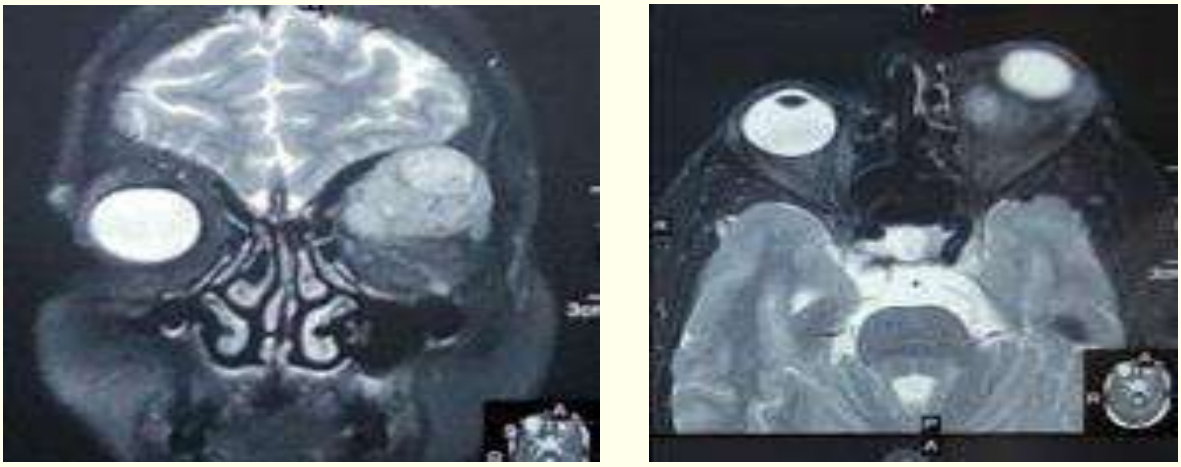

Figure B: Recent MRI scans showing extraconal intra-orbital enhancing rounded soft tissue lesion in the superior compartment of the left orbit

The patient underwent anterior orbitotomy through superior approach and mass was excised in-total done under general anesthesia on 2022-09-06. It was sent for histopathological analysis which revealed a pleomorphic adenoma.

Figure C: Intra-operative Pictures

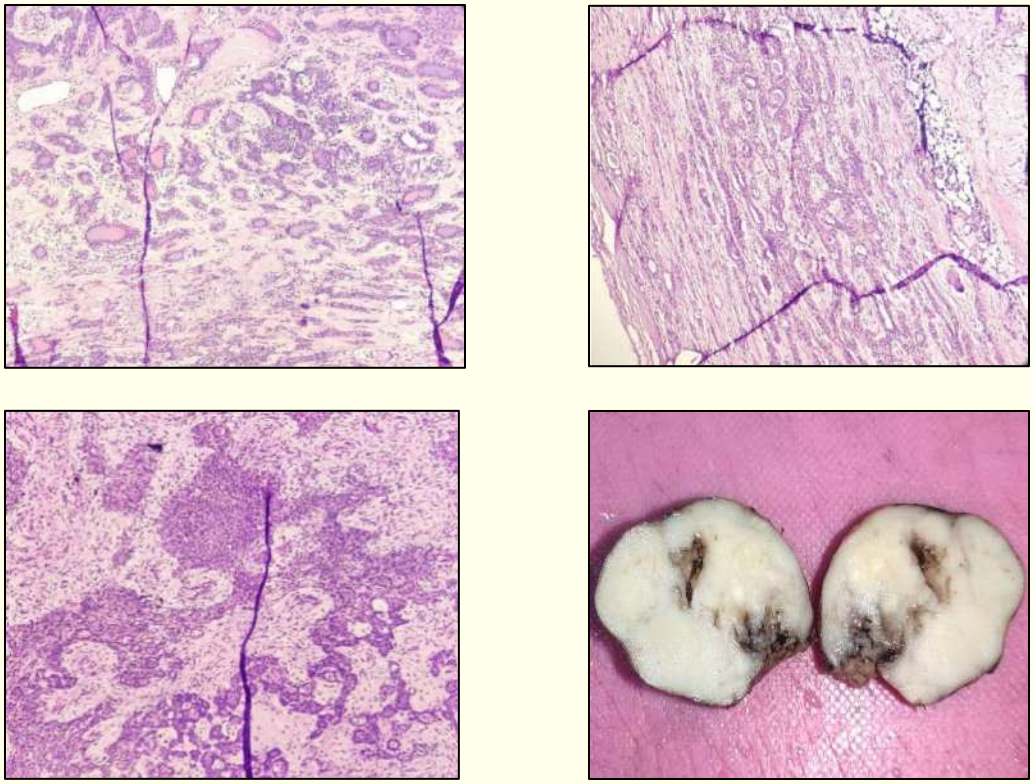

Figure D: Histopathology

Discussion

During this case study, we found that a case of proptosis can have a wide range of differential diagnosis. And, it would not be possible to treat such cases until we have an etiological diagnosis. However, it is not a simple task to reach to the root cause of orbital proptosis.

Every case must be individualized, a very careful and detailed history taking followed by a properly guided examination is warranted for every case of proptosis to help us narrow down our differentials; based on which blood and radiological investigations are sent. Radiological investigations such as MRI, CT scan, B-scan, X-rays not only help to delineate a lesion but also helps us find extension or metastasis of any tumor. But sometimes, as in our case, radiological findings may not always correlate pathologically.

The 45 years old female who presented to us was provisionally diagnosed as benign orbital tumor clinically and hence sent for an MRI scan for further evaluation. The scans revealed findings suggestive of cavernous hemangioma or a neurogenic tumor. Hence surgery was planned accordingly but the histopathological reports were contradictory revealing a pleomorphic adenoma. Hence orbital tumors are unpredictable and pathological analysis is vital for conclusive diagnosis.

In the study by Poudel et al. clinico-pathological accuracy was found to be 68.63%. Similarly, the study of Sim et al.

reported, 21.7% patients had clinical and pathological concordance and 62.7% had clinical, radiological and pathological concordance. However, clinico-pathological correlation was seen in 72.3% cases in a study by Shrestha et al.

Conclusion

Hence, it is difficult to find the etiological diagnose an orbital mass clinically alone. In every case, radiological and histopathological findings must be correlated for accurate diagnosis and proper management of the patient.

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Corresponding author:

Dr Suhana Shrestha
Resident,
Nepal Eye Hospital, Nepal
its.suhana7@gmail.com

Interview

Interview: Heart to Heart with Dr Basant Raj Sharma

This is based on interview with Dr. Basant Raj Sharma (Dr BRS), Past President and founder of Nepalese Society for Oculoplastic Surgeons (NESOS) by Dr Binita Bhattarai (Dr BB).
Since the questions and answers in the interview were not pre-planned, the discussions flowed spontaneously. Through this dynamic exchange readers can have a unique glimpse into Dr BRS's life, thoughts, experiences and contributions.

Dr BB:
Thank you very much, sir, for graciously agreeing to participate in this interview for our upcoming NESOS e-magazine. Your willingness to share your insights and expertise is truly appreciated, especially considering your demanding work schedule and commitments to your family. Your valuable time and contribution will undoubtedly enrich the content of our magazine, and we are honored to have the opportunity to engage in this conversation with you. Once again, thank you for your generosity and dedication to this endeavor.

Q1. Dr BB: Let's begin by getting to know you better. Could you provide us with a brief introduction about yourself, including your personal preferences, hobbies, dislikes, and your guiding principles in life?

Dr BRS: Though I was born in Bhairahwa, most of my childhood was spent away from home in boarding schools in the beautiful doon valley in Uttarakhand. By nature, I was not a studious boy and spent most of my time in playing games and doing mischief. It so prompted one of my teachers to state in the annual report card "we are not sure what he is going to do in his life". Being the only child in the family this was rather worrisome for my parents. It was only my physics teacher who in his report card wrote that "he is different from the others and does things in his own ways". I suppose that has become the motto in life, "being different and doing things my way". I used to play multiple games but never excelled in any so not much sports anymore. I enjoy watching movies and listening to music (esp. in OT), and to this day pursue my hobbies of carpentry and photography.

Always wanted to be a mechanical engineer but 'pure mathematics' really frightened me so I opted for medicine and ophthalmology, both completed from Institute of medicine, Tribhuvan University. Following which I opted for Oculoplasty as my subspeciality and finished my

fellowship from University of British Columbia, Vancouver in 2003. I was initiated and facilitated for the fellowship by Professor John Pratt-Johnson from SEVA Canada, who was a visiting surgeon at Lumbini Eye Institute. Back in LEI we got to set up the Oculoplastic unit that still caters to a large number of patients. The other big step was setting up the NESOS with fellow colleagues and nurturing it to its present status.

Q2. Dr BB: Could you share your experiences and milestones in the field of Oculoplasty that have shaped your journey to this point?

Dr BRS: I have thoroughly enjoyed oculoplasty, especially at LEI as it gave me the opportunity to develop and expand my surgical skills. At same time, I could practice in my hometown close to my family. For me the beauty of oculoplastic lies in the varied disease pathology and myriad of surgical procedure that is available for treatment. The other good thing about oculoplasty surgery is that most procedures can be performed with relatively inexpensive equipment. The major drawback, particularly if you are in solo private practice is that certain pathologies principally those related to orbit and oncology require a multi-disciplinary approach in management. This can be a hindrance due to various factor in one's practice and will diminish the realization of the full scope of your oculoplastic practice.

Q3. Dr BB: Do you have any advice for aspiring oculoplastic surgeons and ophthalmologists who are considering a career in oculoplasty?

Dr BRS: I would encourage anyone who is keen in working with his hands and enjoys his OT time to go for oculoplasty. The dividends may not be monetary but the sense of gratification and fulfilment after each job well done is indeed immense. One word of caution though, oculoplastic surgery literally involves hundreds of procedures, right from the reconstructive to the esthetics and everything else in between. My sincere advice to all young aspiring surgeons is to be patient, give time to learn and develop your surgical skills. Don't try to do everything at the same time, not

possible, rather be selective in developing surgical skills that are best suited for your practice and the needs of the patient. With the availability of multiple fellowship programs in the country, getting into one should not be much of an issue for those keen in oculoplasty.

Q4. Dr BB: What would describe your life beyond the realm of Oculoplasty?

Dr BRS: Life outside oculoplasty is cataract and more cataracts. Conversely, as in my private practice its cataracts, more cataracts and oculoplasty. But jokes apart I do make an effort to give as much time as possible to oculoplastics.

Q5. Dr BB: Having dedicated a substantial number of years to your service at LEI (Lumbini Eye Institute), a significant institutional hospital, you have transitioned to establishing your own private practice, Shree Badri Eye Centre, Bhairahwa. Could you elaborate on the key distinctions you have observed between working within an institutional setting and running your own private practice?

Dr BRS: The main difference between institutional and private practice, especially in my case where it is a solo practice, is the time factor. You are always involved with your clinic, physically or mentally because all clinical and administrative responsibilities are yours and yours only. This can be disconcerting in the beginning but with time you learn to share the burden and assign tasks to others. Even then at the end of the day the final call will have to be yours. Another significant change, specifically if you are moving out of an academic institution, will be loss of academic activity to a lesser or greater extent depending on the type and the busy schedule of your private practice. To this day I regret the fact that I was unable to establish a fellowship program in LEI. Finally, how you will balance your oculoplasty practice with cataract surgeries will be a major challenge as it is going to involve balancing your financial books. Outside of Kathmandu it is not possible to survive just on oculoplasty private practice. In a nutshell private practice is not about glamour and money, it about being your own master. No Pain no Gain, all the Pain all the Gain.

DrBB: Thank you very much sir for your prompt responses during the interview, sir. Your ability to provide clear and concise answers has greatly contributed to the efficiency and effectiveness of our discussion. Before ending this interview I have few more question for you, which you have to answers in few words quickly. It's like Rapid fire questions, okay sir?

Dr BRS: Yeah sure. I will try my best.

1. Favourite actor / actress?

- All-time favorite movie - Shawshank Redemption, Favorite actor Morgan Freeman.

2. Favourite singer you love listening to?

- All-time favorite band Bee Gees and favorite singer Nusarat Fateh Ali Khan.

3. Favourite novel you loved reading?

- Novelist John Grisham's "A Time to Kill."

4. Best food you can cook at home?

- I dislike cooking at home, and would rather do dish washing.

5. Stress buster?

- Stress buster Slapstick comedy movies

6. Health, wealth or happiness?

- At my age health gets priority.

7. Best quote you live by?

- Never tire quoting Benjamin Disraeli to youngsters: There is no Education like Adversity.

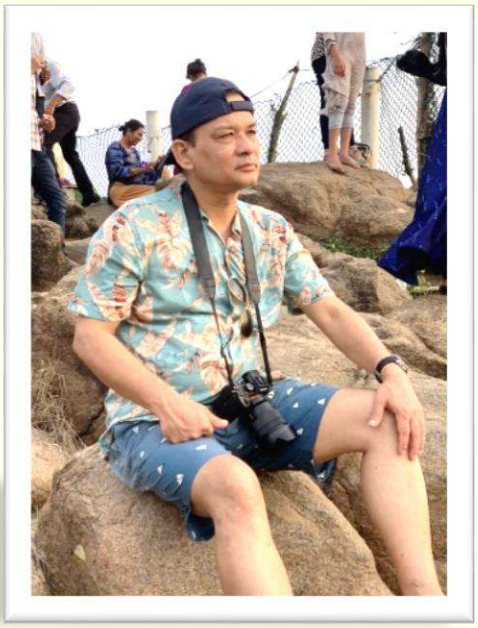
8. Any hidden talent or something people don't know about you?

- I am very "open".

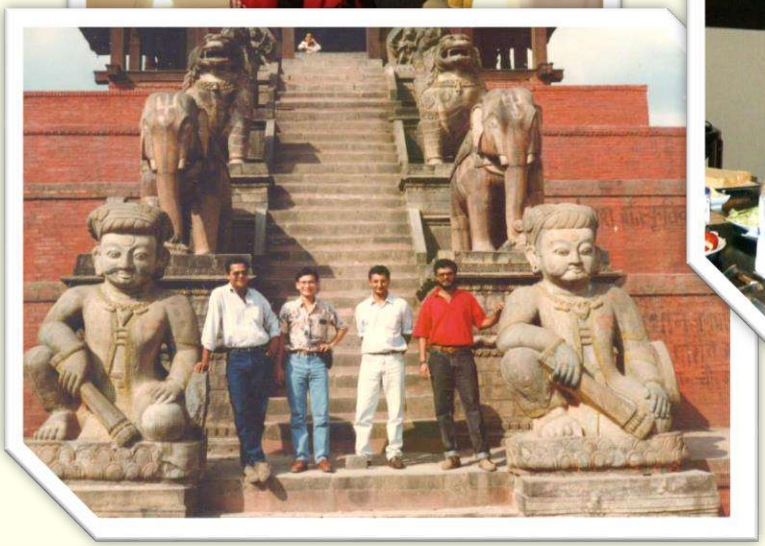
DrBB: Thank you very much once again for the enlightening and comprehensive insights you have shared with us throughout the interview. We have learned a lot from various aspects of your journey and this is a valuable source of inspiration for all of us, especially for aspiring young ophthalmologists. We believe your words will continue to guide and encourage all of us who seek to make a meaningful impact in the field. Your willingness to share your insights in such a manner is truly commendable and valued. Thank you once again for your time and contribution.

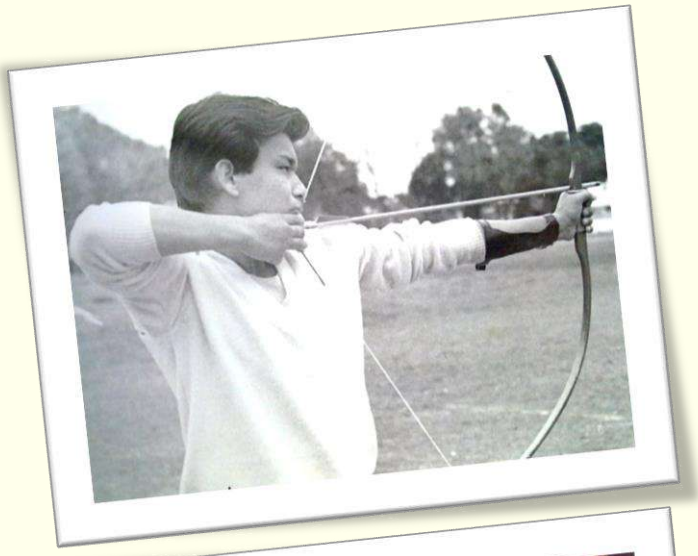

APAO


THE DOON SCHOOL
BATCH OF 1983
35 YEARS




Hotel Seven Star
Sauraha, Chitwan



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Article

Revival of the Myoconjunctival Enucleation Technique

Author: Dr Hom Bahadur Gurung [1], Dr Rachni Gurung [2]
Affiliation: [1] Oculoplastic Surgeon, [2] Resident, Tilganga Institute of Ophthalmology

Introduction and history:

Enucleation is likely the oldest surgical procedure in the realm of ophthalmology.[1] The Chinese recognized its significance, dedicating a deity exclusively to the interests of oculists as far back as 2600 BC. The earliest documented technique was outlined by Bartisch in 1583.[2] While the fundamental principles remain unchanged, modifications have been introduced to diminish postoperative complications and enhance cosmetic outcomes.

The primary objective of enucleation with an implant is focused on rehabilitation, where cosmesis plays a vital role in enhancing social acceptance. In cases where the socket was left unoccupied following enucleation surgery, numerous patients had negligible movement of the prosthetic eye [3], so in 1884, Mules introduced implants to address lost orbital volume, triggering subsequent adaptations in implant shapes and materials.[4] An orbital implant may be encased to shield the overlaying conjunctiva and facilitate attachment of the rectus muscles. The rectus muscles, and occasionally the oblique muscles, can be affixed to the casing at varying points: directly to the implant, to the fornices (utilizing the myoconjunctival technique), or occasionally left unattached.[5] The direct suturing of extraocular muscles to the fornices enables the muscles' movement to be directly conveyed to the fornices. Given that the tension on the fornices is the primary determinant of movement with the spherical implant, this approach maximizes motility. McCord has elucidated the process of attaching extraocular muscles to the fornices, emphasizing that minimizing unnecessary stretching of the recti muscles enhances contractile strength.[6]

The innovation of custom-made prosthetic eyes (CMP) stands as a notable achievement in modern times. Contemporary advancements, such as pegging the prosthesis to the implant, aim to achieve realistic eye movements during conversation. An ideal enucleation technique should encompass several key attributes, including the ability to provide adequate volume for proper prosthesis fitting, transmit motility to the prosthetic eye, maintain affordability for patients, and ensure simplicity for surgeons. Over centuries, diverse enucleation techniques have evolved, each striving to achieve the objective of accommodating a lifelike and mobile prosthesis. However, every technique has its drawbacks, encompassing concerns such as

extrusion, suboptimal motility transfer, and elevated costs.

Routine/ traditional enucleation involves overlapping/ imbricating the recti muscles over a polymethyl methacrylate (PMMA) implant. This causes undue stretching of muscles and provides minimal movement of implant as per Starling hypothesis.[6] Conversely, the myoconjunctival technique involves suturing the recti muscles to their respective fornices and hence increased motility.

Technique:

Myoconjunctival enucleation is usually performed under retrobulbar block for adults and under general anesthesia for children. Despite garnering appreciation from many quarters, this technique has not gained widespread recognition due to two prominent drawbacks: the utilization of four to five double-armed 6-0 vicryl (polyglactin 910) sutures, incurring substantial costs, and a relatively prolonged surgical duration of around one hour, in contrast to the thirty-minute duration of traditional/conventional enucleation.

Numerous studies conducted in India have already demonstrated the superior prosthetic motility achieved through myoconjunctival enucleation. In our efforts to rejuvenate this technique, we have successfully reduced the number of sutures required and minimized the surgical time, all while preserving the core principles of the procedure. The surgical steps are visually depicted in the accompanying diagram below.

Discussion:

Prosthetic rehabilitation plays a vital role in Ophthalmology. A proper enucleation technique serves as the cornerstone for achieving optimal ocular prosthesis functionality and movement. However, limited cost-effectiveness and availability pose challenges, particularly in developing regions. While biointegrated implants are touted to enhance prosthesis outcomes, they come with substantial expenses and the potential risk of extrusion. On the other hand, Polymethyl Methacrylate (PMMA) implants are associated with lower extrusion rates and affordability, albeit with reduced motility. To address this, myoconjunctival procedures offer an economical alternative for achieving relatively improved prosthesis mobility.

Nonetheless, the adoption of classical myoconjunctival surgery has been hindered by the cost of using multiple vicryl sutures and the prolonged surgical duration. To mitigate these limitations, a minor modification in the technique involves suturing the muscles to the conjunctival fornix using a single-armed suture, followed by secure tying with a loop knot. This modification reduces the requirement of vicryl sutures from five to just one, thereby enhancing cost-effectiveness without compromising the fundamental surgical approach and outcomes. Patient management is a holistic approach and must extend beyond the removal of a tumor-filled or painful blind eyeball. The overarching objective is to restore appropriate orbital volume, optimize prosthetic movement, ensure comfort, and achieve aesthetic harmony.

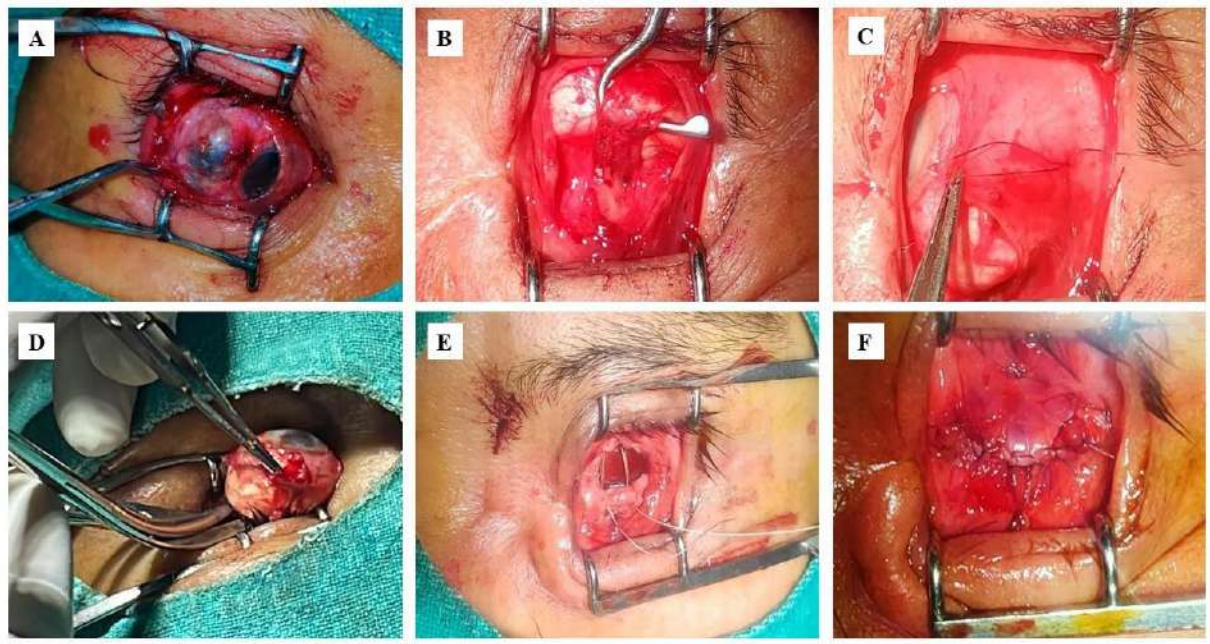

Figure 1 showing the surgical steps. *A. Staphyloma after conjunctival periotomy; B. Isolation of inferior rectus muscle; C. Attachment of lateral rectus to lateral fornix with 6-0 vicryl single arm after making a loop; D. Enucleation with bent scissors; E. Horizontal mattress suture applied to posterior tenon after inserting PMMA implant; F. After conjunctival suturing, three myoconjunctival sutures are visible*

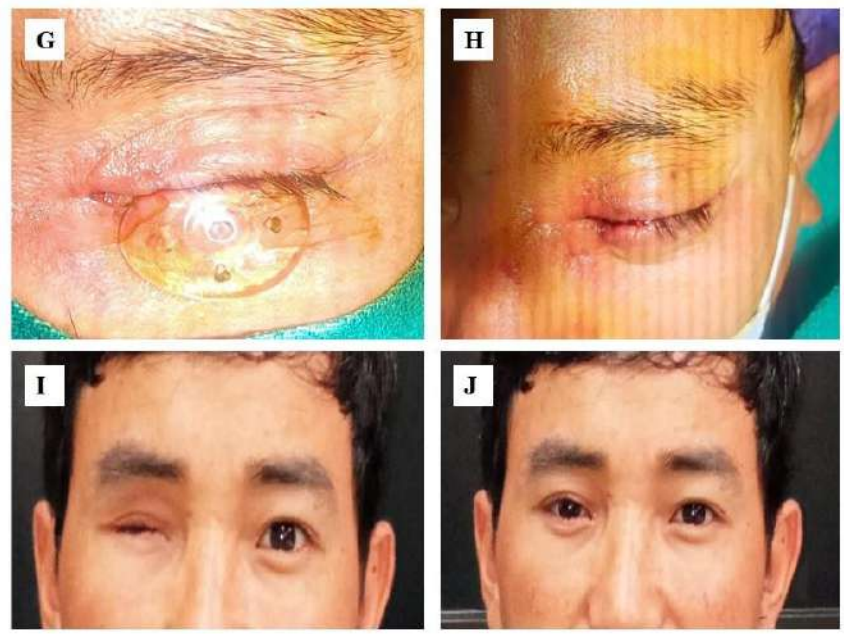

Figure 2. *G. Conformer placed; H. Temporary suture tarsorrhaphy; I. Six weeks anophthalmic socket; J.With CMP after 6 weeks*

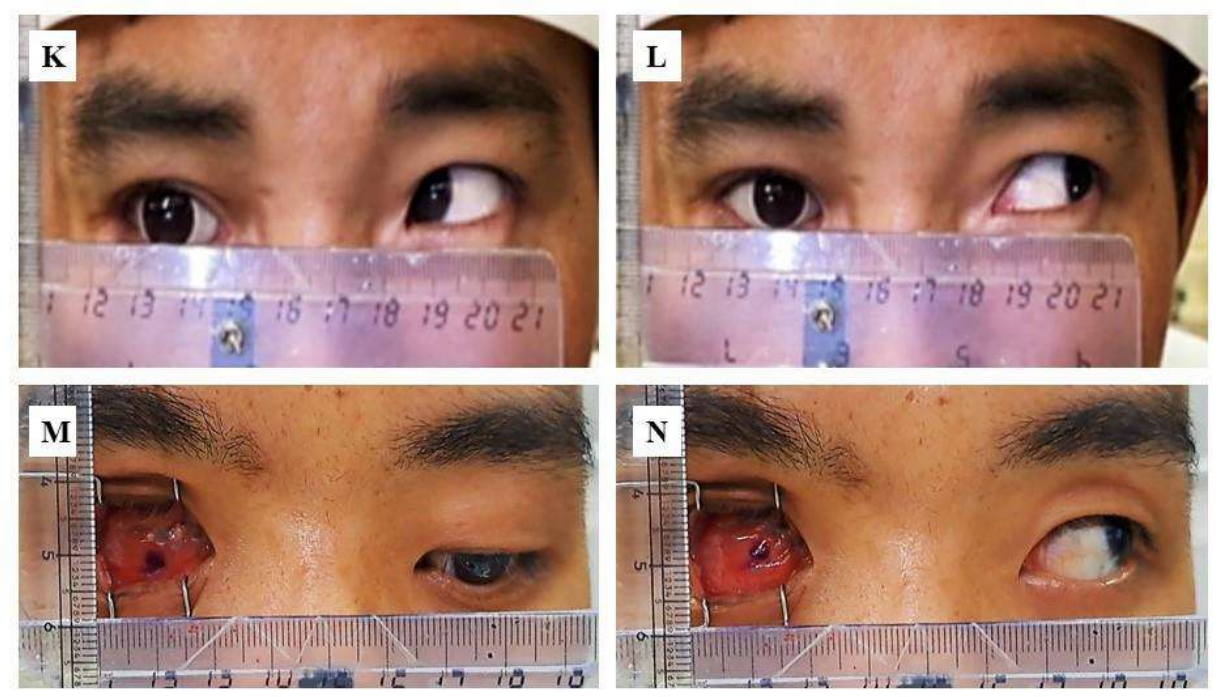

Figure 3. *K. Prosthetic motility in depression; L. Prosthetic motility in levoversion; M. Implant motility in dextroversion; N. Implant motility in levoversion*

(The provided images feature different patients and are integral components of the myoconjunctival enucleation study (MES). These patients have willingly granted informed consent for the publication of their images, exclusively for academic purposes.)*
Consumables- 1 double armed 6-0 vicryl, 1 4-0 single armed vicryl
Average duration of surgery - 30 to 45 minutes

Conclusion:

Achieving satisfactory cosmesis and natural motility of the prosthesis remains crucial in the management of anophthalmic sockets. Through a slight modification to the classical myoconjunctival technique, a cost-effective and time-efficient approach can be reintroduced in the region for effective prosthetic rehabilitation of patients.

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Corresponding author:

Dr Hom Bahadur Gurung
Tilganga Institute of Ophthalmology,
Kathmandu, Nepal
hom.gurung@tilganga.org

Photo stories

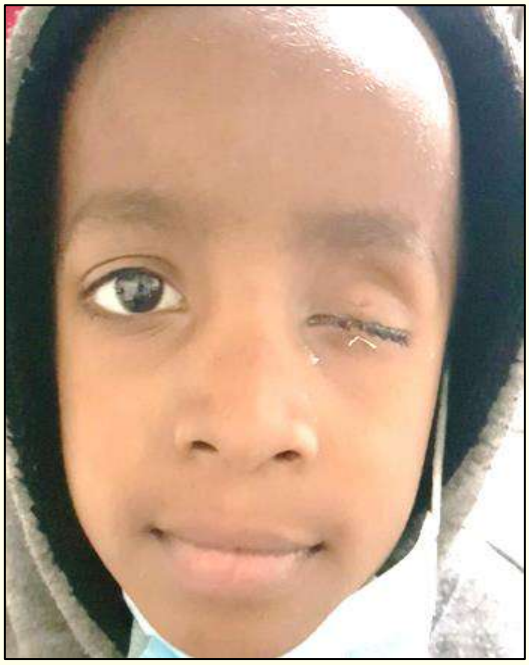
Photo story 1: "Multimodal therapy has improved the life expectancy as well as cosmetic outcome for patients with orbital retinoblastoma"

Courtesy: Dr Purnima Rajkarnikar Sthapit, Head of Department of Oculoplasty, Tilganga Institute of Ophthalmology, Gaushala, Kathmandu, Nepal

A 6 year old boy with unilateral primary orbital retinoblastoma

After 6 cycles of high dose systemic chemotherapy

After 12 cycles of chemotherapy, awaiting enucleation + implant



Post enucleation, received EBRT (External beam radiation therapy) and custom fit ocular prosthesis

Photo story 2: Before and after cavernous hemangioma surgery by anterior orbitotomy by upper lid split procedure.

Courtesy: Dr Diwa Hamal, Nepal Eye Hospital, Tripureshor, Kathmandu

40 years female presented with LE abaxial proptosis since 4 years. MRI head and orbit showed LE cavernous hemangioma ?neurological tumor. Upper eye lid split orbitotomy was done and was removed in total and sent for HPE that reported as Cavernous hemangioma.

Photo story 3: Botox IR and TA upper lid supratarsal for Thyroid lid retraction.

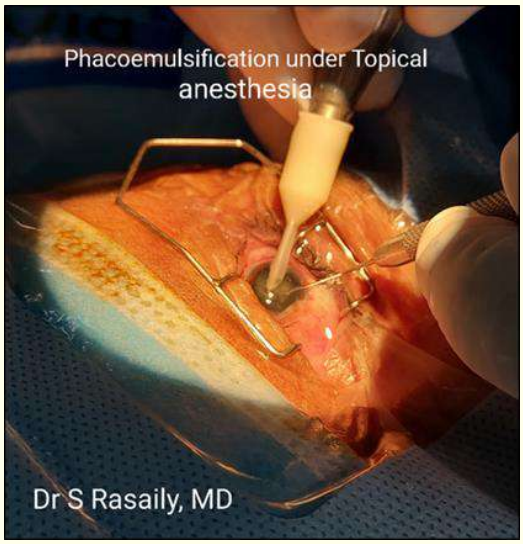
Courtesy: Dr Diwa Hamal, Dr Chandramaya Gurung; Nepal Eye Hospital, Tripureshor,

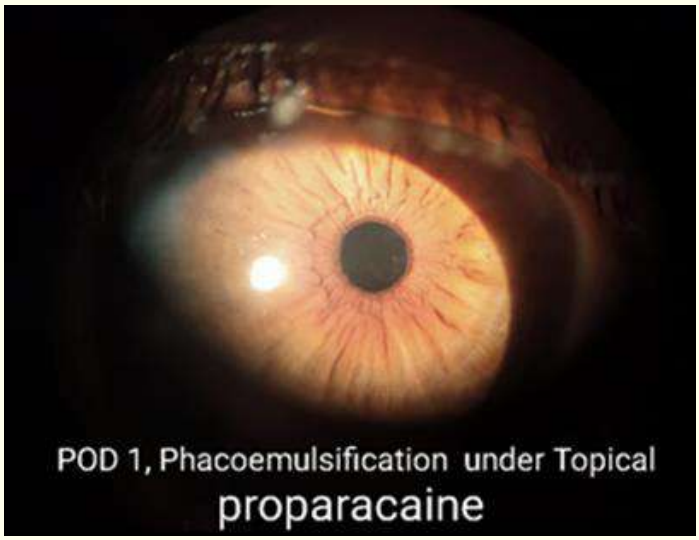
A middle aged lady, on treatment for thyrotoxicosis since 4 years, was cosmetically concerned due to left eye upper lid retraction and hypotropia. Botox injection (3.5 units) in Inferior rectus along with supratarsal injection triamcinolone acetonide (10mg) supratarsal was given in left upper lid. She responded well with good cosmetic outcome in 2 weeks.

Photo story 4: Successful management of Retrobulbar hemorrhage and subsequent topical phacoemulsification surgery

Courtesy: Dr Suresh Rasaily; Rapti Eye Hospital, Dang Nepal

Acute retrobulbar hemorrhage as complication to retrobulbar hemorrhage was managed by canthotomy and cantholysis



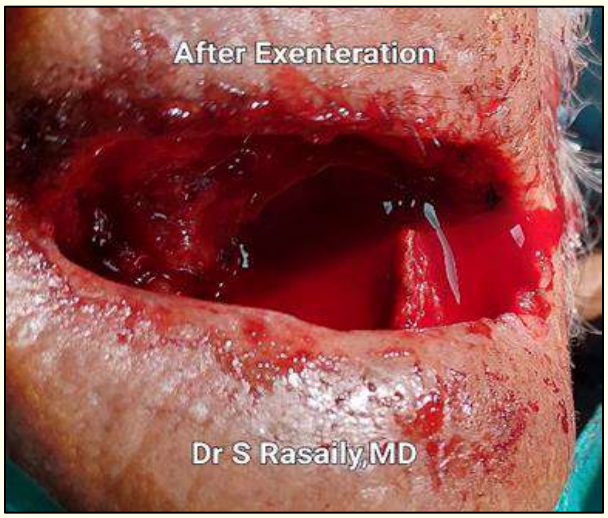


Phacoemulsification was performed under topical anesthesia after 1 month with excellent visual outcome

Photo story 5: Neglected case of eyelid malignant tumor with orbital maggots and successful management with orbital exenteration

Courtesy: Dr Suresh Rasaily; Rapti Eye Hospital, Dang Nepal

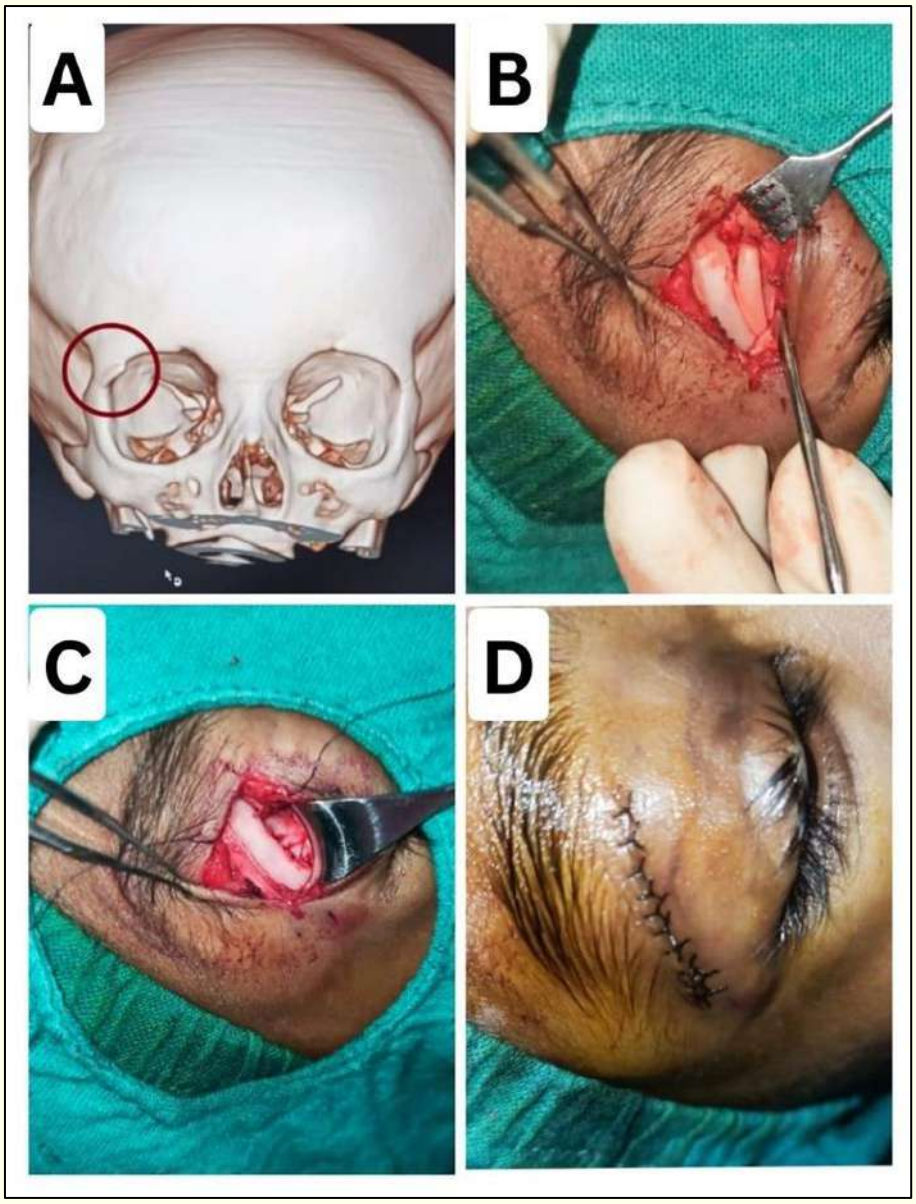
Malignant eyelid tumor with orbital extension had maggots in the orbit and necrosed orbital tissue



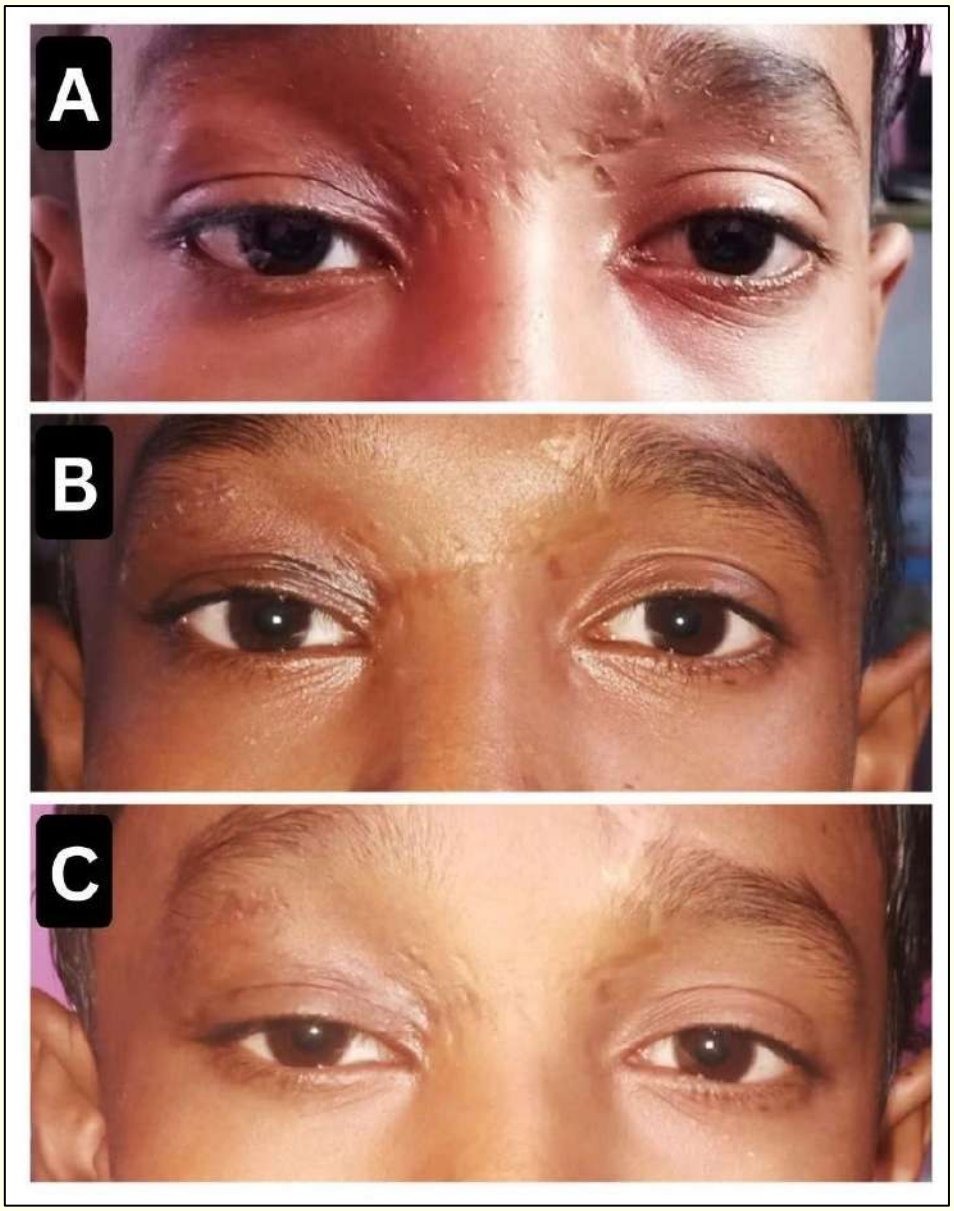
Total exenteration and prompt medical therapy was started with successful outcome

Photo story 6: Contour osteoplasty for management of late posttraumatic painful supraorbital rim bony deformity

Courtesy: Dr Sabin Sahu, Medical Director, Jyoti Eye Hospital, Janakpurdham; Assistant Prof, Janaki Medical College, Janakpurdham



Painful superior orbital rim prominence following trauma 3 years back managed by contour osteoplasty. A. CT scan of the bony prominence; B. Bony growth noted at superior orbital rim; C. After contour osteoplasty; D. At the end of surgery

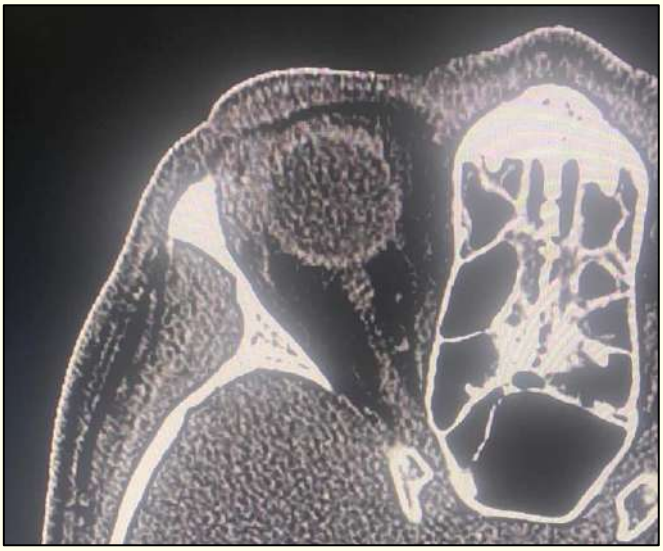


Uneventful postop period with resolved symptoms of pain, superior orbital rim prominence and excellent cosmetic outcome.
A. Preoperative B. Post op 2 weeks. C. Post op 2 months

Photo story 7: Missed intra-orbital wooden foreign bodies presenting as recurrent discharging sinus and its successful management

Courtesy: Dr Jamuna Gurung, Gandaki Medical College, Pokhara

A 54 years man with recurrent drainage of blood mixed pus from a previously sutured wound.

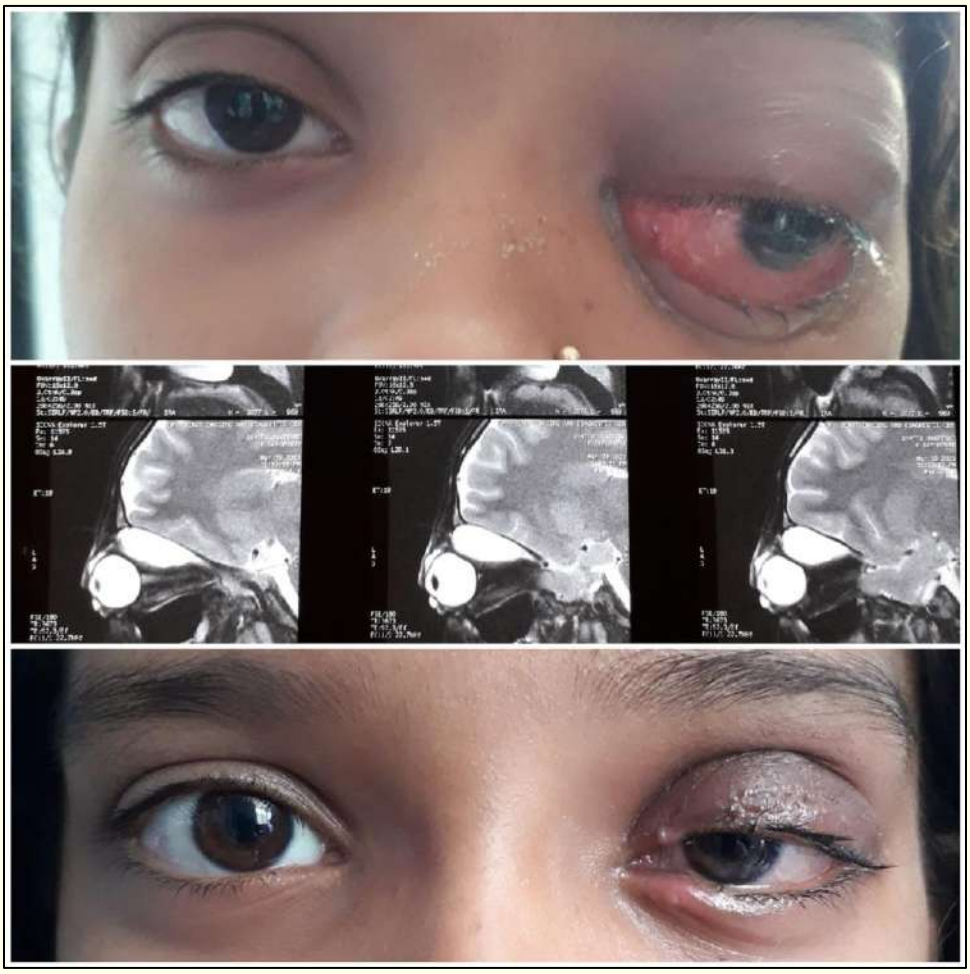


CT orbit showing granulomatous inflammation with hyperdense lesion in right lateral orbit.

Wound exploration revealed multiple wooden foreign bodies

Photo story 8: Chocolate cyst of orbit presenting with acute proptosis and its successful management with superior orbitotomy

Courtesy: Dr Prerna Arjyal Kafle, Prof Dr. Badri Prasad Badhu, Birat Medical College, Biratnagar



A 9-year-old girl with acute proptosis of left eye was found to have cystic intraorbital mass with displacement of left globe anteroinferiorly. Superior orbitotomy was done. Histopathological examination confirmed it to be chocolate cyst lymphangioma of orbit.

Recent updates

Snippets from the oculoplasty and ocular oncology journals in the past 12 months

Dr Pranita Dhakal

1. Hyaluronic acid gel injection for dysthyroid upper eyelid retraction in Asian patients

DOI: https://doi.org/10.1080/01676830.2022.2117385
Authors: Stephanie Ming Young, Jeong Hee Kim, Yoon-Duck Kim, Virongron Karnsiritanont, Stephanie S Lang, and Kyung in Woo
Source: ORBIT 2023, VOL. 42, NO. 4, 389–396
Highlights: Transconjunctival hyaluronic acid injection is an effective treatment option for TED-related upper eyelid retraction in both active and inactive TED patients in an East Asian population, with a potentially long-lasting effect.

2. Intra-arterial chemotherapy in refractory and advanced intraocular retinoblastoma

DOI: 10.4103/ijo.IJO_1388_22
Authors: Namita Kumari, Nishchint Jain, Surbhi Saboo Rajsrinivas Parthasarathy Vipul Gupta , Amita Mahajan , Sima Das
Source: Indian J Ophthalmol. 2023 Feb; 71(2):436-443
Highlights: Secondary triple-drug IAC following failure of IVC, along with other adjunct treatment modalities might a be a cost-effective option for eye salvage in advanced intraocular retinoblastoma patients who refuse enucleation, with a globe salvage rate of 53.84%. It can also be an effective approach to improve treatment compliance and can help in addressing the barrier of treatment refusal when enucleation is advised.

3. Debunking the Puzzle of Eyelid Apraxia: The Muscle of Riolan Hypothesis

DOI: 10.1097/IOP.0000000000002291
Source: Ophthalmic Plast Reconstr Surg 2023 May-Jun; 39(3):211-220
Authors: Hatem A Tawfik , Jonathan J Dutton
Highlights: Electromyographic (EMG) evidence shows that the great majority (84%) of patients show a dystonic pattern, whereas ILPI (16%) does not fit the dystonic spectrum. The authors

propose that a spasmodic contraction of the muscle of Riolan may be the etiological basis for levator inhibition in patients with isolated levator palpebrae inhibition (ILPI). If this is true, all the 3 EMG patterns observed in so called Apraxia of eyelid opening (scAEO) patients (ptBSP, DRI, and ILPI) would represent an atypical form of BSP. The authors suggest coining the terms Riolan muscle blepharospasm (rmBSP) for ILPI, and the term atypical focal eyelid dystonia (AFED) instead of the term scAEO, as both terms holistically encompass both the clinical and EMG data and concur with the authors' theorem.

4. Expression of Programmed Cell Death-L1 (PD-L1) Protein and Mismatch Repair Mutations in Orbital Tumours-a Pilot Study

DOI: 10.1177/11206721211066203

Authors: Mohammad A AlSemari , Diego Strianese , Leen Abu Safieh , Hailah Al Hussain , Malak Abedalthagafi , Deepak P Edward

Source: Eur J Ophthalmol. 2022 Sep;32(5):3097-3102.

Highlights: This study demonstrated scattered, non-quantifiable or absent PD-L1 staining in a limited sample of orbital tumours suggesting that PD-1/PD-L1 inhibitor therapy may not be useful in treatment of malignant orbital tumours (rhabdomyosarcoma and ACC) when refractory to conventional therapy. Our pilot study suggest that PD-L1/MMR axis might not play a major role in the pathogenesis of primary orbital tumour.

5. Implantable Electronic Cardiovascular Device Complications Related to Electrocautery During Ophthalmology Surgery: A Systematic Review

DOI: 10.1097/IOP.0000000000002271

Authors: Jenna Tauber, Jennifer P Tingley, Anne Barmettler

Source: Ophthalmic Plast Reconstr Surg. 2023 Mar-Apr; 39(2):108-116

Highlights: There were no reports of implantable electronic cardiovascular device-related complications from bipolar or thermocautery use in ophthalmic or oculoplastic surgeries. Monopolar have been associated with electromagnetic interference, but additional preoperative and perioperative measures can be taken to mitigate this risk.

6. Amplitude of movements with conical or spherical implants in anophthalmic socket

DOI: 10.1080/01676830.2021.1998914. Epub 2021 Nov 28

Authors: Carolina Pereira Bigheti , Oscar Peitl ,Gabriel de Almeida Ferreira , Silvana Artioli Schellini

Source: Orbit. 2022 Dec; 41(6):708-716.

Highlights: Conical and spherical implants provide similar amplitude of movement and fornix depth did not have an influence on it. The amplitude of movement was significantly limited

compared to the contralateral eye and was even more reduced if the external ocular prosthesis was in place with conical or spherical implant formats.

7. Preliminary proteomic analysis of human tears in lacrimal adenoid cystic carcinoma and pleomorphic adenoma

DOI: 10.18240/ijo.2023.06.02
Authors: Han Yue, Feng-Xi Meng, Rui Zhang, Jiang Qian
Source: Int J Ophthalmol. 2023 Jun 18; 16(6):841-848
Highlights: The combined tools of label-free analysis and parallel reaction monitoring are very effective and efficient, especially for samples such as tears. Some proteomic differences in tears between adenoid cystic carcinoma (ACC) and pleomorphic adenoma (PA).are identified and these protein candidates may be specific biomarkers for future exploration.

8. Antibiotic utilization in endoscopic dacryocystorhinostomy: a multi-institutional study and review of the literature

DOI: https://doi.org/10.1080/01676830.2023.2227705
Authors: Nina S. Boal, Carolina A. Chiou, Natalie Sadlak, V. Adrian Sarmientoa, Daniel R. Lefebvre, and Alberto G. Distefano
Source: ORBIT 2023 Jul 2:1-7.
Highlights: Data suggest antibiotics may be beneficial only when patients have a recent or active dacryocystitis prior to surgery. Otherwise, our data do not support the routine use of antibiotic prophylaxis in endo-DCR.

9. Tear instability in the fellow eye of unilateral nasolacrimal obstruction and resolution with dacryocystorhinostomy

DOI: 10.1080/01676830.2022.2119261
Authors: Nesime Setge Tıskaoğlu , Alper Yazıcı
Source: Orbit. 2023 Aug; 42(4):404-410
Highlights: Schirmer and TBUT values of the fellow eye were significantly lower than PANDO eyes preoperatively, one month after surgery there was no significant difference. TBUT and tear osmolarity of the fellow eyes may be indicative of tear instability preoperatively with improvement 3 months after dacryocystorhinostomy.

10. The outcome of conventional open reduction approach vs endoscopic approach for orbital floor repair

DOI: 10.1016/j.jobcr.2022.06.007
Authors: Ravi Katrolia , Shadab Mohammad , Divya Mehrotra , Geeta Singh , Deepika Jain , Ezhilarasi , M Haaris Khan , M V Sowmya
Source: J Oral Biol Craniofac Res. 2022 Sep-Oct; 12(5):589-592.

Highlights: Diplopia, hypoglobus and Enophthalmos correction was better achieved in endoscopic group as compared to conventional group. But duration of surgery was more in endoscopic group as compared to conventional group.

11. Comparison of Postoperative Infection Rates After Office-based Oculoplastic Procedures Using Sterile and Clean Gloves

DOI: 10.1097/IOP.0000000000002266
Authors: Diane Wang, Roman Shinder
Ophthalmic Plast Reconstr Surg. 2023 Mar-Apr; 39(2):146-149.
Highlights: In minimally complex in-office oculoplastic procedures, using sterile versus clean-boxed gloves resulted in similar low infection rates in this large cohort. The healthcare benefits may not outweigh the costs of using sterile gloves universally for office-based oculoplastic procedures.

12.Effect of Rim-Off Deep Lateral Orbital Decompression on Interpalpebral Fissure Shape

DOI: 10.1097/IOP.0000000000002273.
Authors: Bruna Equitation, Denny Garcia, Alicia Galindo-Ferreira, Victoria Marqués-Fernández, Marco Sales-Sanz, Antonio Augusto Velasco Cruz
Source: Ophthalmic Plast Reconstr Surg. 2023 Mar-Apr; 39(2):170-173
Highlights: Small changes in palpebral fissure shape after deep lateral decompression are not dependent on the presence or absence of the lateral rim

NESOS News Desk

NESOS Members in action

a) NESOS members attended and participated APAO (Asia-Pacific Academy of Ophthalmology) Congress, Feb 23-26, 2023; Malaysia

Prof Dr Rohit Saiju, Dr Ben Limbu, Dr Lila Raj Puri, Dr Purnima, Dr Malita, Dr Diwa, Dr Aashish, Dr Prerna Kansakar attended the conference.

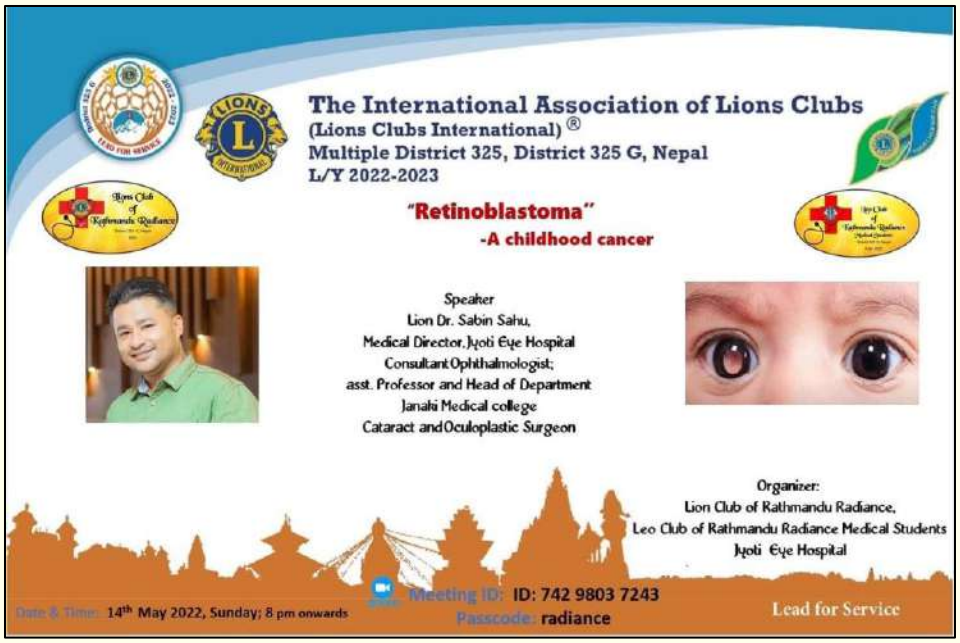
1. Dr Ben Limbu: Graduation : Awardee APAO Leadership Development
2. Dr Aashish Raj Pant – APAO Diamond Jubilee Travel grant award
3. Dr Lila Raj Puri – APAO Distinguished service award 2022
4. Dr Prerna Kansakar – The rising star of Nepal in YO APAO

b) NESOS members attended and participated in world Society of Ophthalmic Plastic Reconstructive and Aesthetic Surgery Conference on 5-7 May, Dubai

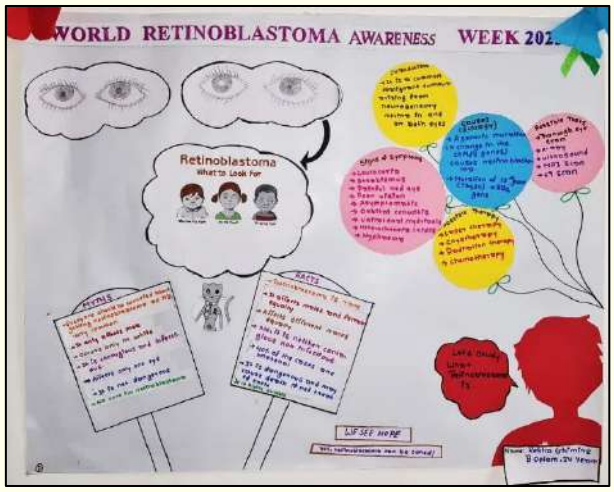
Prof Dr Rohit Saiju, Dr Ben Limbu, Dr Purnima, Dr Malita, Dr Varun attended the conference.

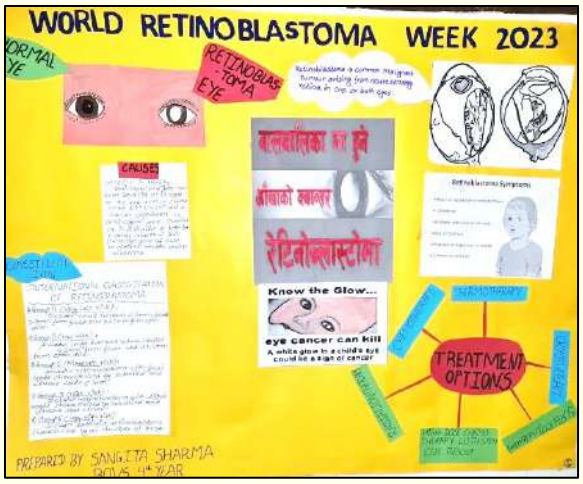
c) NESOS members celebrated Retinoblastoma week 2023

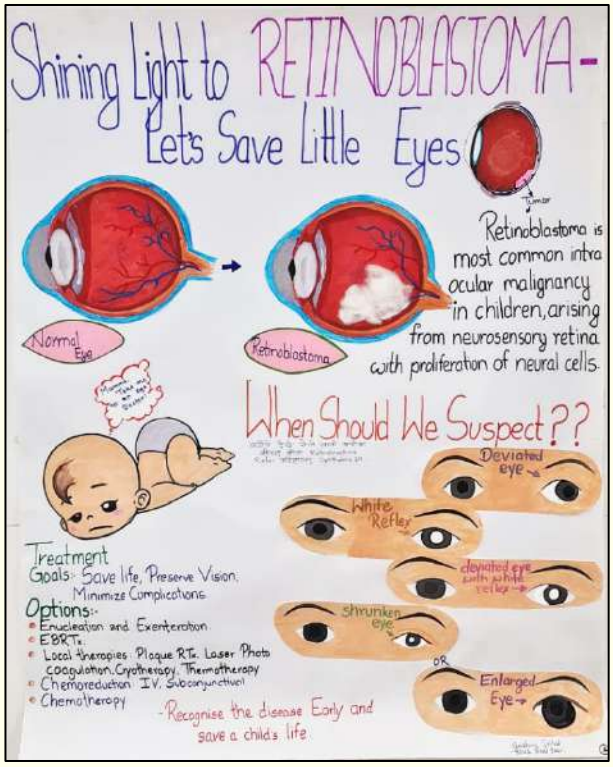
1. Dr Sabin Sahu conducted webinar on RB along with Lions club of Kathmandu Medical Radiance for OA, Optometrists and MBBS students.

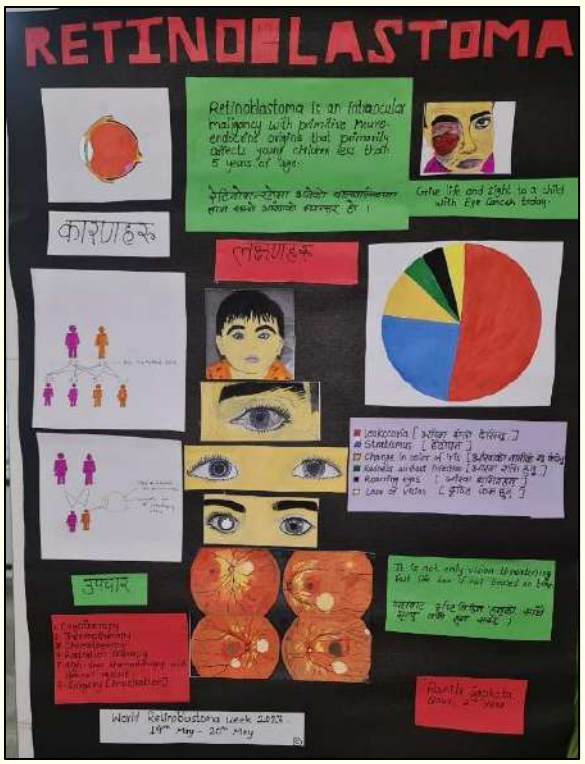


2. Dr Diwa Hamal conducted RB awareness poster competition among OA and Optometrists students and conducted workshop for residents of Nepal Eye Hospital.


WORLD RETINOBLASTOMA AWARENESS WEEK 202
Retinoblastoma
What to Look For
SIGNS
FACTS
LIFE SEE HORE


WORLD RETINOBLASTOMA WEEK 2023
RETINOBLAS TOMA EYE
CAUSES
Know the Glow...
eye cancer can kill
TREATMENT OPTIONS
PREPARED BY SANGITA SHARMA


Shining Light to RETINOBLASTOMA-
Let's Save Little Eyes
Retinoblastoma is most common intra ocular malignancy in children, arising from neurosensory retina with proliferation of neural cells.
Normal Eye
Retinoblastoma
When Should We Suspect??
Deviated eye
White Reflex
deviated eye with white reflex
shrunken eye
OR
Enlarged Eye
Treatment
Goals:- Save life, Preserve Vision. Minimize Complications
Options:-
Enucleation and Exenteration
EBRT.
Local therapies Plaque RTx. Laser Photo coagulation. Cryotherapy. Thermotherapy
Chemoreduction IV. Subconjunctival
Chemotherapy
-Recognise the disease Early and save a child's life

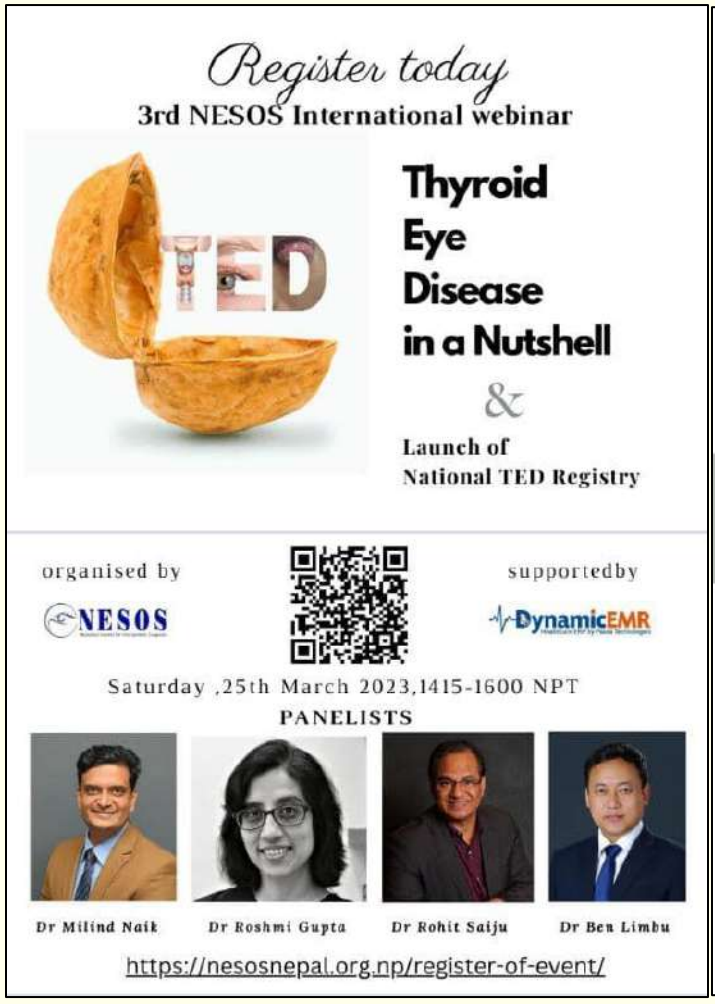

RETINOBLASTOMA
Retinoblastoma is an intraocular malignancy with primitive neuroendocrine origin that primarily affects young children less than 5 years of age.
Give life and sight to a child with Eye Cancer today.
कारण हरू
लक्षणहरू
उपचार
World Retinoblastoma Week 2023
19th May - 26th May

d) NESOS members attended and participated APSOPRS, June 9-10, 2023; China

1. Prof Dr Rohit Saiju, Dr Ben Limbu, Dr Purnima, Dr Malita, Dr Diwa, Dr Aashish, Dr Nisha, Dr Aric, Dr Varun attended the conference.
2. Dr Aashish Raj Pant – nominated for Young APSOPRS committee 2023-24

e) NESOS president Dr Sulaxmi katuwal receives a prestigious "Suprabal Janasevashree Padak" award

f) International webinar "Thyroid eye disease in nutshell" conducted and Launch of National TED Registry done on March 23, 2023.



g) NESOS members Dr Rohit, Dr Tina, Dr Sabin, Dr Ranjana, Dr Aric works to raise public awareness – Article in National newspaper, Television and social media


न्युज कारोबार

बच्चाको आँखामा गाजल लगाउनु कतिको सुरक्षित हुन्छ ?

सक्ने धुलिखेल अस्पतालकी, नेत्ररोग विशेषज्ञ , डा टीना श्रेष्ठ बताउँछिन् ।


रातोपाटी EN

उनले भनिन्, 'आँखा पाकेको निको बनाउने औषधि छैन । विस्तारै आफै निको हुन्छ ।'


विश्व बाल क्यान्सर दिवसको अवसरमा ओपन आइज नेपालको कार्यक्रममा वरिष्ठ नेत्ररोग विशेषज्ञ डा.रोहित...

h) NESOS members Dr Sabin Sahu and Dr Aashish Raj Pant along with Nepal Ophthalmic Society organized an webinar "Pink eye unveiled – Understanding Conjunctivitis" on July 30, 2023

i) Other activities

1. Dr Ben Limbu conducted Oculoplasty, Ocular Oncology, Squint and cataract workshop at Freetown, Sierra Leone, West Africa.


2. Dr Purnima Rajkarnikar Sthapit conducted three full days of Oculoplasty surgery at Korle Bu Teaching Hospital, Accra, Ghana in August 2023.


About NepTED Registry

The Nepal Thyroid Eye Disease Registry is an initiative of NESOS aimed at developing a comprehensive database of TED patients in Nepal. The registry will provide a centralized platform for collecting and analyzing data related to the prevalence, incidence, clinical characteristics, and management of the disease, enabling healthcare providers to develop evidence-based treatment strategies and improve patient outcomes. The registry will also facilitate a better understanding of predisposing factors for TED, enabling physicians to prevent and manage the disorder, leading to more favorable outcomes for patients through multispecialty teamwork. Establishing a disease-based hospital registry for thyroid eye disease in Nepal has the potential to bring significant benefits to the country's healthcare system.

Introduction: Thyroid Eye Disease (TED) is a potentially sight-threatening autoimmune disease which primarily damages the tissues surrounding the eyes, especially the extraocular muscles, and connective and fatty tissues. Nepal, a mountainous and landlocked country, has a high prevalence of TED due to iodine deficiency disorders and thyroid dysfunction. However, the exact database for the TED in Nepal and its natural course is unknown and hence the necessity of a nationwide registry for TED. The registry will also facilitate a better understanding of predisposing factors for TED, enabling physicians to prevent and manage the disorder, leading to more favorable outcomes for patients through multispecialty teamwork.

Objectives: The primary objective of the registry is to establish a database for TED patients in Nepal to provide accurate information on the disease burden and improve the quality of care for TED patients. The registry will secondarily collect the demographic, clinical, and treatment data of TED patients, enabling healthcare providers to identify trends and patterns in the disease presentation and outcomes.

Methodology: The registry will be a collaborative effort between the Nepalese Society for Oculoplasty Surgeons and the Nepal Health Research Council (NHRC) supported by the Diabetes and Endocrinology Society of Nepal (DEAN) and Nepal Ophthalmological Society (NOS). The registry will be hospital-based and will collect data from all patients diagnosed with TED from various hospitals across Nepal. The registry will collect demographic and clinical data, including age, sex, and duration of thyroid disease, smoking history, and family history of thyroid disease. Additionally, the registry will collect clinical data, including thyroid function tests, imaging studies, and eye examinations. The registry will use a web-based platform to collect and store data securely, ensuring patient confidentiality.

Expected Outcomes: The registry will provide valuable information on the burden of TED in Nepal, enabling healthcare providers to improve the quality of care for TED patients. The registry will provide information on the disease presentation, treatment, and outcomes, enabling healthcare providers to identify trends and patterns in the disease presentation and outcomes. The registry will also facilitate a better understanding of predisposing factors for TED, enabling physicians to prevent and manage the disorder, leading to more favorable outcomes for patients through multispecialty teamwork. Moreover, the registry will support the development of evidence-based guidelines for the management of TED in Nepal, enabling healthcare providers to deliver optimal care to TED patients.

Conclusion: The Nepal Thyroid Eye Disease Registry is an initiative aimed at developing a comprehensive database of TED patients in Nepal. The registry will provide a centralized platform for collecting and analyzing data related to the prevalence, incidence, clinical characteristics, and management of the disease, enabling healthcare providers to develop evidence-based treatment strategies and improve patient outcomes. With proper planning, implementation, and monitoring, the registry has the potential to significantly improve the diagnosis and management of thyroid eye disease in Nepal, and ultimately lead to better health outcomes for patients.

The proposed registry will require significant investment in infrastructure, human resources, and technology. However, the potential benefits of the registry justify the costs, and it is essential for the government, healthcare organizations, and other stakeholders to collaborate and invest in this initiative. With proper planning, implementation, and monitoring, the registry has the potential to significantly improve the diagnosis and management of thyroid eye disease in Nepal, and ultimately lead to better health outcomes for patients.

Activities till date:

a) Nepal Thyroid Eye Disease Registry workshop conducted on 3rd August 2023 at Kathmandu

b) Province wise NepTED workshop conducted online via Zoom

c) Research orientation class by NHRC conducted online via Zoom

NESOSCON 2022

Nepalese Society of Oculoplastic Surgeons accomplished a remarkable feat by hosting the 4th National conference 0n 21-22 October, 2022 at The Soaltee, Kathmandu. The conference emerged as a resounding success, reflecting the dedication, expertise and collaborative spirit of the Society's members and participants.

The conference was hosted by NESOS team with Dr Ben Limbu as organizing chair and Dr Puja Raj Bhandari as Organizing Secretary. It had 29 International faculties and 25 National faculties. The conference included preconference instruction course, workshops (Custom design ocular prosthesis workshop, Ophthalmic Photography workshop (Suturing techniques and lid laceration repair), Orbital decompression and orbital fracture repair workshop, Hands-on Botox and Fillers workshop). More than 500 national and international delegates attended the conference.


4th National Oculoplasty Conference 2022
In Pursuit of Excellence In Oculoplasty
Nepalese Society for Oculoplastic Surgeons
OPENING CEREMONY
The Soaltee


NING CEREMONY
2022
Nepalese Society for
Oculoplastic Surgeons
In Pursuit of Excellence
In Oculoplasty
21st - 22nd October 2022
The Soaltee, Kathmandu


NESOSCON 2022


ROHTO PHARMACEUTICAL CO.,LTD.


4th National Oculoplasty Conferen
In Pursuit of Excellence In Oculoplas
Nepalese Society for Oculoplastic Surg
4th National Oculoplasty Conference 2022
Nepalese Society for Oculoplastic Surgeons


4th National Oculoplasty Conference 2022
In Pursuit of Excellence In Oculoplasty
Nepalese Society for Oculoplastic Surgeons
PLENARY SESSION
4th National Oculoplasty Conference 2022


Sun Pharmaceutical Industries Ltd.
aurolab


4th National Oculoplasty Conference 2022
In Pursuit of Excellence In Oculoplasty
Nepalese Society for Oculoplastic Surgeons
TEA BREAK


Allergan
Allergan

Goodbye! See you all again! Sayonara!