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HealthNews DIGEST

Aster HOSPITALS & CLINICS
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Dr. Sherbaz Bichu

CEO & Specialist Anaesthetist
Aster Hospitals & Clinics, UAE

As one of the leading integrated healthcare providers across the region, Aster not only strives to remain on top of the most recent and advanced clinical practices but also believes in sharing best practices among medical practitioners. With that, the core aim remains to keep affordability, accessibility, and quality care the prime focus using patient centric approach. In that direction, I am honoured to welcome you to the 6th edition of the HealthNews Digest. With each successive edition of this collaborative platform, we aim to showcase rewarding clinical excellence achieved by our health practitioners.

I convey my best wishes to everyone contributing to this novel initiative that has enormous potential to touch lives and create lasting impact.

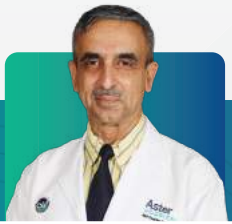
Dr. Ramanathan V

Medical Director
Aster Hospitals & Clinics, UAE

As we tread through yet another year of being one of the region's preferred healthcare providers, we aim to further evolve our facilities with state-of-the-art technology and infrastructure so as to offer our medical fraternity a conducive environment to provide the most advanced patient care. We expect the impact of such initiatives to be clearly evident from the multifaceted cases highlighted in this series. As always, I remain grateful to the core pillars of our healthcare community – the doctors and allied professionals – who remain committed and always strive to go above and beyond in their roles.

I hope you will find the 6th edition of the HealthNews Digest as exciting as we have been in launching it.

Dr. Renju Prem
Oral and Maxillofacial Surgery (Specialist)



Dr. Vikram Mohindra
Ophthalmology (Specialist)

Multiple Facial Fractures

Treatment of Multiple Facial Fractures involving Zygomaticomaxillary / Orbital Regions with Orbital Floor Reconstruction done successfully at Aster Hospital, Mankhool

PRESENTATION

- 30 year old male
- History of accidental self-fall at home, sustained injury to the left side of the face and eye regions
- Complaints of swelling, redness, and watering of the left eye associated with severe pain and difficulty in mouth opening
- Loss of consciousness
- Mild headache
- Blurred vision in left eye

CLINICAL FINDINGS

- **Extra oral:**

  Diffuse swelling – Left zygomaticomaxillary region

  Depressed anterior maxilla

  Left eye – Subconjunctival haemorrhage and periorbital edema

  Left supraorbital region – Lacerated wound

  Traumatic lids and adnexa

  Conjunctival haemorrhage

  Paresthesia – Left infraorbital region

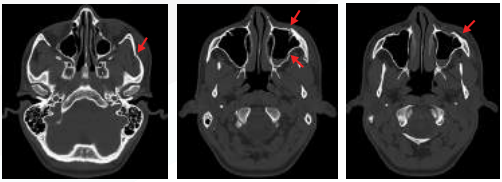
- **Intra-oral:**

  Trismus

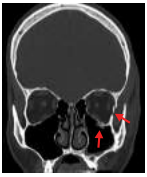
  Multiple fractured teeth – Maxilla

RADIOLOGICAL EXAMINATION FINDINGS

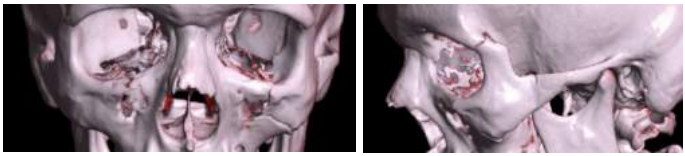
- Comminuted depressed fracture of anterior wall of left maxillary sinus along with displaced fracture posterolateral wall
- Maxillary hemosinus
- Comminuted fracture - floor of left orbit
- Depressed fracture – left zygomatic arch (Tripod Fracture)
- Depressed fracture of lateral wall of left orbit
- Subcutaneous soft tissue thickening in the left periorbital and zygomatic regions



Radiological Images



Coronal Image



3-D view of infraorbital/floor and lateral orbital fractures

PROCEDURE

Open Reduction and Internal Fixation (ORIF) + Reconstruction of Orbital Floor with Titanium Mesh done under general anaesthesia.

INTRAORAL:

- Under GA with necessary aseptic precautions, nasotracheal intubation done, airway secured.
- Incision given in the left maxillary mucobuccal fold, periosteum tunnelled, anterior maxilla exposed.
- Fractured segment of bone devoid of periosteal attachment lodged in the maxillary sinus with hemosinus, and nerve entrapment (infraorbital nerve) seen along the fracture line.
- Avulsed segments of bone devoid of periosteal attachment removed.
- Hemosinus evacuated and nerve entrapment released.

EXTRAORAL:

SUBCILIARY APPROACH:

- Incision given in the left lower eyelid skin crease region, approximately 2 mm inferior to, and parallel with the superior free margin of the lower lid.
- Periosteum reflected, and plane of dissection continued between the orbicularis oculi muscle, reaching up to the infraorbital rim.
- Fracture was seen extending to involve the floor of orbit with segments of bone detached from the orbital floor.
- Pre-existing lacerated wound in left lateral orbital region, incision was extended to involve the lateral frontozygomatic region.

GILLIES TEMPORAL APPROACH:

- Pre-operative preparation – hair was shaved over the temporal region of scalp above the bifurcation of superficial temporal artery approximately 2.5 cms above the helix of the left ear.
- Infiltrative anaesthesia given in the surgical site to achieve hemostasis.
- A straight incision of 2.5 cm in length was made at an angulation of 30-45 degree to the horizontal, 1.2 cm anterosuperior to the helix of the left ear.
- Blunt dissection was done to prevent injury to the superficial temporal vessels to expose the temporalis fascia.
- The fascia was incised to uncover the temporalis muscle.
- The broad end of Howarths periosteal elevator was inserted into the interface between the temporalis fascia and muscle.
- The elevator was moved to and fro inferiorly until the zygomatic arches, infratemporal surface of body of zygoma was felt.
- The elevator was withdrawn, and Rowe's zygomatic elevator was introduced in the plane and manual elevation was done to restore the anatomical contour.
- A snap sound was audible to ensure the adequacy of elevation.
- Zygomatic arch stabilized and fullness of the cheek contour was restored.
- Intraoperative mouth opening achieved to normal (>2 fingers).
- Wound cavity debrided and temporalis fascia was sutured in layers.
- Avulsed segments of bone devoid of periosteal attachment removed along the orbital floor, nerve entrapment released, and floor reconstruction done with titanium mesh.
- Fractures reduced, stabilized and fixation was done with titanium plates and screws.
- Wound cavity debrided thoroughly, and hemostasis was secured.
- Wound closure was done in multiple layers followed by skin closure and compression dressing was given.

Intra-operative findings

Reconstruction of Orbital Floor with Titanium Mesh

POST PROCEDURE

Patient withstood the procedure well; post anaesthesia recovery was uneventful. Post-operatively, patient was monitored in the recovery, stabilized, and shifted to the ward thereafter. Vision was documented normal and ophthalmological consult was obtained. No diplopia was reported, condition optimized.

Immediate post-operative images

1 week after suture removal

Post-operative X-ray Image

DISCUSSION

Zygomaticomaxillary Complex (ZMC) Fractures are commonly encountered in the trauma scenario. Although there is a multitude of treatment methods available, the ultimate goal for any surgeon should be to reproduce premorbid form and function. An intact zygoma and its surrounding bony anatomy are essential for maintaining facial contour, such as cheek prominence as well as orbital integrity. Anatomically, the zygoma is attached to the frontal bone (via the frontozygomatic suture),

the maxilla (via the zygomaticomaxillary suture), squamous part of the temporal bone (via the zygomaticotemporal suture) and the sphenoid bone (via the zygomaticosphenoid suture). Fractures that involve the zygoma often occur at these four sites, leading to a 'tetrapod" fracture pattern. Thus, fractures of the zygomatic complex inevitably lead to a certain degree of orbital defect. Other fracture patterns, including isolated zygomatic arch fractures, or ZMC fractures with associated pain facial fractures, such as fort II and III fracture patterns. Indication for fixation of zygomatic fractures include aesthetic defects (cheek bone flattening / dimple) or functional defects (restrictive mouth opening, malocclusion, or ophthalmic issues such as diplopia, restricted eye movements and enophthalmos).

A multidisciplinary survey involving Otolaryngology, Plastic and Oral and Maxillofacial surgeons demonstrated variable treatment choices for ZMC fractures, consensus widely agreed for minimum two point fixation and three point fixation (in case of a 'tripod" fracture) with lateral orbital involvement. Orbital floor fractures involve complex soft tissue and bony reconstruction. The complex anatomy and proximity to vital structures present a reconstructive challenge to the surgeon. Urgent surgical intervention is considered for early enophthalmos and hypoglobus, diplopia with evidence of muscle entrapment, haemorrhage, non-resolving oculocardiac reflex and blow out fractures.

The oculocardiac reflex (OCR) results from pressure on the globe due to entrapped periorbital soft tissues and subsequent increase in efferent vagal tone causing syncope, bradycardia, potential heart block, nausea, and vomiting. Immediate surgical exploration is indicated to prevent fatal cardiac arrhythmia. Immediate repair has been shown to improve ocular motility in patients with signs of muscle entrapment due to prevention of ischemic necrosis, resultant fibrosis, and strabismus. Delayed treatment of muscle entrapment has been shown to correlate with a higher incidence of persistent postoperative diplopia.

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4. Orbital floor reconstruction using prevent titanium mesh

R.R Beder - 2022.

5. Management of zygomatic arch fractures by Gillies temporal approach: case series - April 2020 Mansi Dey, Amit Sarkar.

Secondary Syphilis

An Unusual Case of Secondary Syphilis treated successfully at Aster Clinic, Al Karama, Dubai

Dr. Divya Kamat
Specialist Dermatology, Aster Clinic, Al Karama

PRESENTATION

- 24 year old unmarried male
- History of painful lesions over the palms and soles for 1 week that had spread to the trunk in the last 3 days
- Received a 7-day course of oral cefixime for sore throat and fever that lasted for 2 weeks
- Denied h/o high-risk behaviour
- No history of any other medications intake and prior drug allergy
- He denied having any lesions involving the mucosae-oral and genital
- Medical history of bleeding per rectum in the past; diagnosed with an anal fissure and taken laxatives on and off

EXAMINATION FINDINGS

- General examination was normal
- Cutaneous examination - Erythematous indurated papules and deep nodules were seen over the palms and soles which were bilaterally symmetrical, tender, and mostly concentrated along the instep of the soles
- On the palms: Lesions were more discrete
- Trunk: Faint Erythematous papules were seen all over the back and chest
- Mucosae: Normal
- Perianal area: Sentinel tag and fissure were seen

Erythematous Papules and Nodules with Minimal Scaling over the Palms and Soles

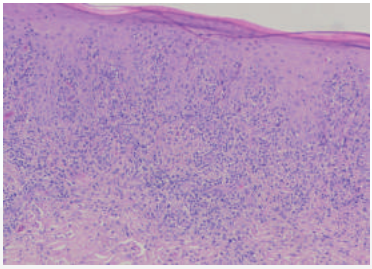
Faint Maculopapular Rash on the Trunk

PROVISIONAL DIAGNOSIS

- Erythema Multiforme Minor
- Secondary Syphilis
- Neutrophilic Eccrine Hidradenitis

INVESTIGATIONS ORDERED

- RPR (rapid plasma reagin): 1:128 titre
- Skin biopsy - Dermis showed ill formed epithelioid granulomas with lymphocytes and histiocytes admixed with some eosinophils present throughout the dermis including the perineural and periadnexal location. No plasma cells were seen.
- CBC - within normal limits



Biopsy of Skin Nodule showing Dermal Lymphocytic Infiltrate with Granulomatous Inflammation and Paucity of Plasma Cells

COURSE

- The patient was started on topical steroids and oral anti histamines for the lesions while the reports were awaited. During the course of 5 days of the above treatment, the patient developed multiple new lesions over the trunk with increasing pain and discomfort. The lesions over the feet became tender deep nodules.

- After the RPR titres were revealed, the patient was more forthcoming about his promiscuous behaviour including several encounters of unprotected homosexual contact which also explained his anal fissures.
- With the final diagnosis of secondary syphilis, he was given benzathine penicillin injection of 1.2 million units intramuscularly as a single dose.

FOLLOW UP

On follow up after 10 days of treatment, all the lesions began to fade, and pain was significantly reduced. The patient was advised to get screened for other STI's and follow up for the RPR titres at 6 monthly intervals.

DISCUSSION

Secondary Syphilis is caused by Treponema pallidum and is often called the great masquerader. It can mimic virtually any dermatological condition, so one must have a high suspicion index. Dealing with STIs, in general, is a tricky situation due to the lack of insurance coverage and job insecurity related to the diagnosis of STIs. In this case, the histopathology picture showed atypical features of secondary syphilis - granulomatous inflammation is a hallmark of tertiary syphilis but is rarely reported in secondary syphilis. The paucity of plasma cells also goes against the diagnosis of secondary syphilis. (1)
In ideal situations, additional TPHA testing is done to confirm the diagnosis as it is a treponemal-specific test. HIV testing is also recommended; however, they were not done in this case due to the patient's refusal. (2) Repeated RPR testing at 6 monthly intervals is recommended to look for treatment response based on the fall of serological titres. (2)

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Types of **IV Vitamin Drips**

BEAUTY

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Benefits

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Ectopic Pregnancy

Management of Ectopic Pregnancy using Laparoscopic Technique

Dr. Maya Sasikumar
Obstetrics and Gynaecology (Specialist)

Any pregnancy in which the fertilized egg implants outside the intrauterine cavity is referred to as an ectopic pregnancy (1). Anatomic sites other than the intrauterine cavity cannot support placental attachment or a developing embryo, therefore there is always a risk of rupture and haemorrhage (1). An ectopic pregnancy that has ruptured is a serious medical emergency (1).

AFTER IDENTIFICATION OF ECTOPIC PREGNANCY:

- If the patient is stable, pharmacotherapy of ectopic pregnancy is now a possibility thanks to early diagnosis (1). The potential benefits include avoiding surgery and maintaining tubal patency and function (1).
- If the patient is unstable, surgical removal of ectopic pregnancy is done (1).

Traditionally, salpingectomy via laparotomy was the gold standard for the treatment of ectopic pregnancy (1). A laparotomy is a surgical incision into the abdominal cavity (1). Laparotomy is now not required, thanks to the laparoscope (1). Now, laparotomy is considered only when a patient is hemodynamically unstable or there are technological obstacles to laparoscopy (1).

LAPAROSCOPY FOR ECTOPIC PREGNANCY

Laparoscopy allows a surgeon to access the inside of the pelvis without having to make large incisions in the skin as shown in figure 1 (5). This procedure is also known as keyhole surgery or minimally invasive surgery (6). Nowadays, laparoscopic salpingostomy or salpingectomy is performed to treat ectopic pregnancy (4).

- In a salpingostomy, a straight incision is made to open the tube directly over the ectopic pregnancy (4).
- Salpingectomy is the surgical removal of one or both fallopian tubes (4).

Large incisions can be avoided during laparoscopic treatment of ectopic pregnancy (5). A laparoscope is a small tube that has a light source and a camera, which relays inside images of the pelvis to a

television monitor (5). The Schematic representation of how the laparoscopy for treating ectopic pregnancy is performed and the advantages of this technique over traditional salpingostomy or salpingectomy via laparotomy are described in figure 1.

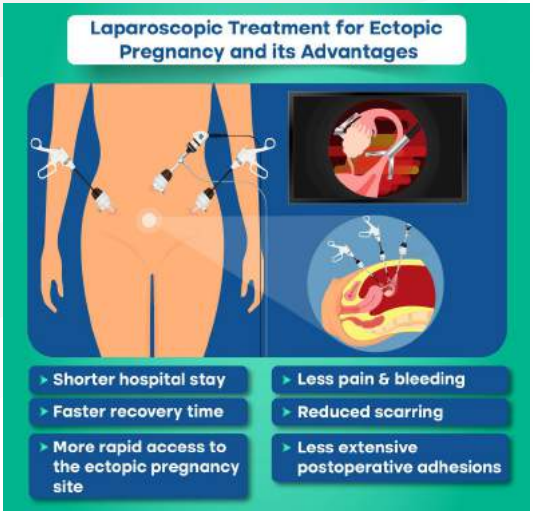

Figure 1: Schematic representation of how Laparoscopic treatment of Ectopic Pregnancy is performed (5,6)

HOW IS LAPAROSCOPY PERFORMED?

Laparoscopy is carried out under general anaesthetic (5). During laparoscopy, the surgeon makes one or more small incisions in the pelvis region (5). These incisions allow the surgeon to insert the laparoscope, small surgical tools, and a tube which is used to pump gas into the abdomen (5). This makes it easier for the surgeon to look around and operate (5). After the procedure is done, the gas is let out of the pelvis and the incisions are closed (5). Patients can often go home on the same day of the laparoscopy, although the patient may need to stay in the hospital overnight for observation in some cases (6).

EFFICACY OF LAPAROSCOPIC TREATMENT FOR ECTOPIC PREGNANCY

Nowadays laparoscopic salpingostomy and salpingectomy are standard procedures for treating ectopic pregnancies (4). The laparoscopic technique is chosen based on the requirement of the patient to maintain postoperative fertility (4). However, Laparoscopic salpingostomy shows a higher rate of naturally occurring intrauterine pregnancies after surgery than laparoscopic salpingectomy (4). It results in better endocrine function, and ovarian reserve functions, and creates a favourable environment for a second pregnancy (4).

COMPLICATIONS ASSOCIATED WITH LAPAROSCOPIC TREATMENT OF ECTOPIC PREGNANCY

Laparoscopy is a routine procedure for the treatment of ectopic pregnancy, wherein serious complications are rare (5). Minor complications are estimated to occur in 1-2% of cases following laparoscopic salpingostomy or salpingectomy (5). They include infection, minor bleeding/bruising around the incision, malaise, and nausea (5). Serious complications after these procedures are estimated to occur in only 0.1% of cases which include organ damage, major artery damage, gas bubbles entering veins or arteries, allergic reaction to general anaesthesia, and deep vein thrombosis (5).

Key Highlights

- Laparoscopic salpingostomy and salpingectomy are standard procedures for treating ectopic pregnancies (4).
- Salpingostomy involves making a straight incision to open the tube directly over the ectopic pregnancy while Salpingectomy is the surgical removal of one or both fallopian tubes (5).
- Treatment of ectopic pregnancy via Laparoscopy allows a surgeon to access the inside of the pelvis without having to make large incisions in the skin (5).
- The advantages of laparoscopy over laparotomy are more rapid access to the ectopic pregnancy site, shorter surgery duration, less pain and bleeding, less extensive postoperative adhesions, reduced scarring, faster recovery, and lower costs of treatment (4,5).
- Serious complications associated with the laparoscopic treatment of ectopic pregnancy are rare (4).

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Celiac Artery Compression Syndrome

A Rare Case of Celiac Artery Compression Syndrome managed successfully by Laparoscopic Medial Arcuate Ligament Release at Aster Hospital, Al Qusais

PRESENTATION

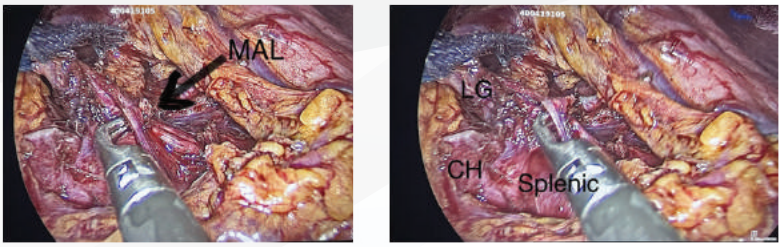
The patient was a 25-year-old female from South India who started experiencing symptoms for the first time in July 2014. She faced severe epigastric pain after having a heavy dinner. She was taken to ER of a hospital and managed medically as Acute Gastritis. The following month, she had the same symptoms; she was admitted and evaluated in a private hospital. USG, serum amylase, blood counts, and H-pylori came negative, and she was kept on long-term proton pump inhibitors. Next year, she had episodes of similar pain, recurring every 3-4 months. The pain was observed typically in the epigastric region and post-prandial irrespective of any diet, usually associated with nausea and vomiting. Over the next few years, she was often admitted to several hospitals, including a Medical College Hospital. But CT abdomen, upper gastrointestinal endoscopy, and MRI abdomen did not reveal anything significant.

She relocated to Dubai in 2020 and started experiencing similar pain, nausea, and vomiting associated with a significant weight loss of 22 kgs in six months. She was admitted to our facility with the mentioned symptoms. She used to kneel on the ground, bending forward, to press her stomach upon her thighs to get relief from the pain. Of significance, the proton pump inhibitors did not offer any benefit to her. The clinical features were suggestive of Celiac Artery Compression Syndrome, and CT angiography findings were compatible with the clinical impression diagnosis. Hence, the decision of laparoscopic medial arcuate ligament release was taken.

Contra-CT image showing compression of the proximal celiac artery and post-stenotic dilatation

FINDINGS

On examination, a thick band of the median arcuate ligament was observed that was compressing the proximal Celiac Trunk, causing post stenotic dilatation.



Per-op image showing MAL (Median Arcuate Ligament) compressing the celiac trunk

PROCEDURE

- After obtaining consent, patient was prepped and draped.
- Pneumoperitoneum was created with Veress needle at palmer's point.
- Four 5 mm and one 10 mm supraumbilical ports were inserted.
- Liver retractor was inserted via an epigastric incision, pars flaccida was opened, left gastric identified and traced cranially to the trifurcation.
- Common hepatic and splenic were identified.
- Thick median arcuate ligament and nerve fibres were identified over the proximal celiac trunk causing kinking of the celiac trunk and post kink dilatation.
- The ligament and nerve fibers were divided with harmonic after doing the "Lift Test".
- Hemostasis was achieved, area was washed, and port site was closed.
- Skin was closed with 3/0 monocryl.

POST PROCEDURE

The post-operative period was uneventful. She was started on oral sips after 4 hours. The following day, she was on a soft diet followed by a regular diet by evening. She was tolerating all oral feeds without any abdominal pain. She was discharged on POD-2 after her bowels opened.

DISCUSSION: CELIAC ARTERY COMPRESSION SYNDROME

Celiac Artery Compression Syndrome is also known as Dunbar Syndrome or Median Arcuate Ligament Syndrome. It is a rare medical condition characterized by recurrent abdominal pain that arises from the compression of the celiac artery by a fibrous band of the diaphragm known as the median arcuate ligament. Lipshutz first reported the anatomical compression of the celiac artery in 1917. As a clinical

entity, median arcuate ligament syndrome was first described by Harolja in 1963. Dunbar described the first clinical study on this entity in 1965.

Celiac artery compression syndrome is a rare condition with a reported incidence of 2 per 100,000 population. It commonly occurs in females between 30 to 50 years of age, with a female-to-male ratio of 4:1.

The etiology of celiac artery compression syndrome is not fully understood. The median arcuate ligament is a fibrous band that connects the two medial borders of the diaphragmatic crura, usually near the level of the 12th thoracic or first lumbar vertebrae. Compression of the celiac artery can occur in two anatomic situations: an abnormally cephalad origin of the celiac artery or an abnormally caudad insertion of the diaphragm. The compression of the celiac artery by the median arcuate ligament is believed to cause intermittent mesenteric ischemia. However, this explanation alone may not thoroughly explain the condition, as there is usually a rich collateral network of mesenteric vessels between the celiac and the superior mesenteric artery. Therefore, there may be a role for underlying celiac nerve plexus dysfunction when considering this condition's etiology. Nerve dysfunction may give rise to abnormal splanchnic vasoconstriction, leading to ischemia.

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Transphyseal Anterior Cruciate Ligament (ACL) Reconstruction

Transphyseal Anterior Cruciate Ligament (ACL) Reconstruction in Paediatric Athlete done successfully at Aster Hospital, Sharjah

Dr Raghavendra Kunebelakere Siddappa
Orthopaedics (Specialist)

PRESENTATION

- 16 year old male
- No medical history
- History of twisted injury while playing football one month back
- Admitted with:
  - Pain and swelling in right knee
  - Increase in pain on standing and walking
  - Inability to walk properly

FINDINGS

During Examination:

- MRI showed complete ACL tear in right knee
- Tenderness and swelling over anterior joint line
- ROM 0-90 flexion
- Positive anterior drawer test
- Pain score 7/10
- Negative McMurray's test
- Varus and Valgus stress test negative

Pre-operative X-ray image

Pre-operative MRI images of Right Knee Joint

MRI findings revealed:

- High grade anterior cruciate ligament tear
- Moderate joint effusion predominantly involving suprapatellar joint recess
- Multifocal wedge shaped areas of marrow contusions involving posterior half of medial and lateral tibial condyle and along antero-inferior aspect of lateral femoral condyle
- Grade I Signal along lateral collateral ligament

SURGICAL PROCEDURE

- Under general anesthesia, semi-tendinosis graft was harvested from right knee.
- 8 mm graft was prepared. Stab incision was made through anteromedial and anterolateral aspects of right knee.
- Complete ACL tear was identified through arthroscope.
- Femoral and tibial tunnels were made using transphyseal approach (8 mm drill).
- Graft was fixed using endo-button adjustable loop and peak screw.
- Hyaluronic acid was injected into knee joint.
- Wound was closed, and dressing was done.
- Knee brace was applied.

POST PROCEDURE

Patient tolerated the procedure well and was uneventful. Post-operative X-ray showing Transphyseal ACL Reconstruction.

Pre-operative X-ray image
Red line indicates Transphyseal Approach
Yellow line indicates Epiphyseal Sparing Approach

Post-operative X-ray image (Surgery done using Transphyseal Approach)

DISCUSSION

Anterior cruciate ligament tears were once considered rare in skeletally immature patients. But there is an increased incidence of ACL injuries in paediatric patients because of more athletic and sports activities.

Current guidelines support the Surgical Management of Ligament Injuries and restore knee stability.

Despite various techniques like Transphyseal and Epiphyseal sparing, secondary Physeal damage is a genuine concern. The optimal approach in paediatric age groups remains controversial.

Ligament Reconstruction techniques are selected appropriate to the skeletal age. Boys of 15 years and older, girls of 13 years and older are ideal for 'Transphyseal Anterior Cruciate Ligament Reconstruction" because of the lower risk of growth plate injury and growth disturbances.

Paediatric patients less than 12 years male and less than 10 years female seem to be at risk for significant growth disturbances. Hence 'Epiphyseal Sparing Techniques" are used in these patients.

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