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HealthNews DIGEST

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Aster HOSPITALS & CLINICS
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Dr. Sherbaz Bichu

CEO & Specialist Anaesthetist
Aster Hospitals & Clinics, UAE

On behalf of Aster's leadership, I welcome you to the 7th edition of the HealthNews Digest. At Aster, our focus and efforts have always been to stay at the leading edge of technological advancements in healthcare. COVID-19 pandemic made it clear to the world that the use of novel technology in the field of medical science is not only important for clinical excellence but also vital for patient-centric care delivery.

Today, the transition to digital healthcare is not just one of the pillars of innovation for healthcare organizations, it is the need of the hour. In that respect, I am delighted to share that Aster has been at the forefront to embrace this transition to become the first fully integrated digital health ecosystem in the region. The launch of myAster platform would enable our medical fraternity to take expert patient care to a whole new level. I wish to express my gratitude to everyone involved in making this possible.

Dr. Ramanathan V

Medical Director
Aster Hospitals & Clinics, UAE

In the last few years, since the onset of the COVID-19 pandemic, the world has witnessed unprecedented changes in the healthcare landscape. Not many times in history before, it has become so obvious that we need to do much more when it comes to our ability to cover a wider population under the healthcare umbrella.

Digital Health has come out as the clear means for us to achieve this objective of taking cutting-edge patient care to the masses. I am confident that the confluence of the deep clinical expertise of our practitioners and the digital tools offered by the myAster platform would result in the next revolution in healthcare delivery. I convey my best wishes to everyone involved in this novel initiative.

Encephalitis in Pandora's Box!

Herpes Viral Encephalitis treated effectively at Aster Hospital, Sharjah

Dr Mohammed Niaz
Neurology (Specialist)

PRESENTATION

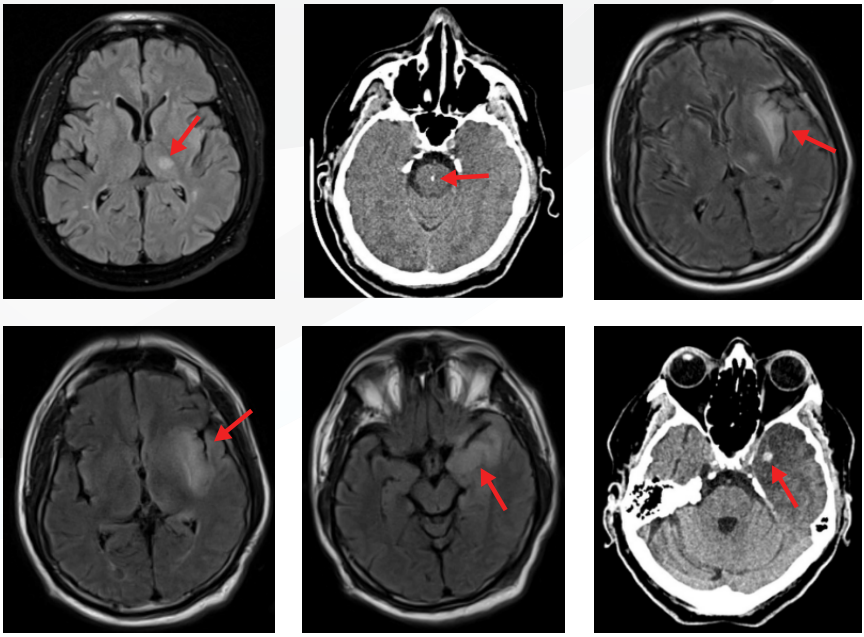
- 70 year old male
- Medical history of CAD-PTCA 5 years back (stent in situ), Hypertension, and Dyslipidemia
- Tested covid positive 2 weeks back - underwent home isolation
- Travelled to Turkey for a vacation, where he developed the following symptoms & returned to UAE:
  - Slurring of speech for 3 days
  - Irrelevant speech
  - Reduced movements on the right side of the body
  - Cough

He was referred to Aster Hospital, Sharjah, as a case of a Cerebral Vascular Accident (CVA) from an outside hospital for further management.

FINDINGS

At the time of presentation:

- BP: 147/71 mmHg; HR: 86/min
- SpO2: 89 to 94 % room air; RR: 34/min
- Febrile 38'c
- Bilateral scattered wheeze on Respiratory auscultation
- Global Aphasia - naming difficulty, reduced word output, impaired repetition, impaired comprehension
- Dysarthria
- Paucity of movements on right side of the body with reduced dexterity
- Bilateral equivocal plantar response
- Minimal terminal neck stiffness, other meningeal signs negative
- MRI Brain done from outside showed Acute Infarct in left thalamus & insular cortex



Serial Radiological Imaging of Brain

COURSE

- The patient was admitted in ICU under Neurology with the above history, clinical & radiological features.
- Initially started on dual antiplatelets, statin, neurosupportive measures and antibiotics.
- CT brain showed small midline brainstem small bleed, antiplatelets were stopped, and CT thorax showed Linear fibrotic bands in the subpleural region in bilateral lungs.
- 24 hours later, CT brain was repeated to assess worsening of intracerebral bleed, bleed was status quo. But due to high index of suspicion of Encephalitis/Meningoencephalitis, MRI screening of brain was done, which in fact was suggestive of Encephalitis.
- Proceeded with Lumbar puncture & CSF analysis.
- Started on Empirical meningoencephalitis panel (antibiotic + antiviral).
- Patient developed recurrent episodes of generalized tonic-clonic seizures with sensorium not regaining in between.

- In view of the poor GCS<8, patient had been intubated, connected to mechanical ventilator, and anti-epileptic medicines were started.
- Patient developed recurrent refractory seizures; more anti-epileptics were added & titrated along with anesthetics/muscle relaxant infusion. Diagnosed to have super refractory status epilepticus.
- His other blood parameters were also deranged – thrombocytopenia, hyponatremia, hypokalemia, transaminitis were gradually corrected.
- Hypotension was corrected with IVF boluses & Inotropes.
- IgM Legionella came as positive, started injection Levofloxacin & continued for 5 days.
- Acyclovir was continued in view of possible viral encephalitis. Febrile episodes & seizure episodes ceased only after a week.
- HSV-1 PCR came as positive later. Titrated up Injection Acyclovir according to the body weight. Stopped other antibiotics. Features suggestive of autonomic dysfunction persisted. Abnormal PT/INR was corrected.
- After proper weaning, the patient was extubated after 11 days of intubation. Sensorium gradually started improving, but showed delirium, aphasia & paucity of movements on the right side.
- Continued RT feeds due to poor swallow reflex. Acyclovir continued for 21 days.
- CT brain showed new hemorrhagic transformation in the left temporal lobe with significant hypodensities.
- Later he was shifted out of ICU in view of improving sensorium, maintaining saturation in room air, afebrile & seizure free status. Other medicines gradually tapered as much as tolerated.
- Physiotherapy gradually increased. But the patient developed new onset fever episodes, URE showed features suggestive of UTI.
- CRP was on increasing trend, suspected Urosepsis. Patient was shifted back to ICU and restarted higher spectrum antibiotics. Urine & sputum Culture showed ESBL Positive E. coli.
- Patient started improving and discharged after 38 days of hospital stay.

CURRENT STATUS

At present, the patient is haemodynamically stable, ambulant without support, no hemiparesis, able to follow all his activities of daily life by himself, but having residual sensory aphasia, which is gradually improving. He is on monthly follow-up.

DISCUSSION

Worldwide, Herpes simplex virus encephalitis (HSE) has an incidence between 1 and 3 cases per million individuals, a mortality rate up to 30% and a high incidence of severe and permanent neurologic sequelae. Most cases (90%) are attributed to infection by Herpes Simplex Virus (HSV) type 1, while 7% are caused by HSV type 2, which have traditionally shown a more indolent form of central nervous system (CNS) involvement. It is thought that HSE results from a recent infection or

reactivation of latent HSV genomes residing in certain CNS sites.

The key to establishing evidence of CNS inflammation is the analysis of cerebrospinal fluid (CSF). The application of polymerase chain reaction (PCR) for the detection of HSV genetic material (DNA) in the CSF provided the gold standard for the diagnosis of HSE. MRI is the imaging of choice when encephalitis is suspected.

Even with antiviral therapy, survival rates remain at 70% and life-long neurological deficits and sequelae such as anterograde amnesia, difficulties with executive function and aphasia are often reported.

The prognosis of HSE remains poor, especially if not promptly diagnosed. However, other factors may interfere and lead to a severe form of HSE. A better knowledge of this disease and its outcome predictors may help clinicians through the management of HSE.

Refractory Status Epilepticus (RSE) is defined as persistent seizures despite appropriate use of two intravenous medications, one of which is a benzodiazepine. Super Refractory Status Epilepticus (SRSE) is defined as SE that persists despite 24-hour treatment with IV anesthetic and recurs when weaning the patient off the anesthetic.

Our case was extremely difficult to manage in view of HSV Encephalitis in a patient with premorbid vascular risk factors, recent Covid infection, co-existent Legionnaire's disease, respiratory failure, Super refractory status epilepticus, hemorrhagic transformation, sepsis, and other related complications.

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Homolateral Lisfranc Fracture Dislocation

Successful Treatment of a Rare Injury - Homolateral Lisfranc Fracture Dislocation of Right Foot, by Open Reduction and Internal Fixation at Aster Cedars Hospital, Jebel Ali

Dr. Shafeed Thadathil Parambil
Orthopaedics (Specialist)

PRESENTATION

- 25 year old male
- No medical history
- No family history of medical illness
- Admitted with:
  - Pain, swelling, and deformity of right foot following a hefty glass piece fell on his foot.

FINDINGS

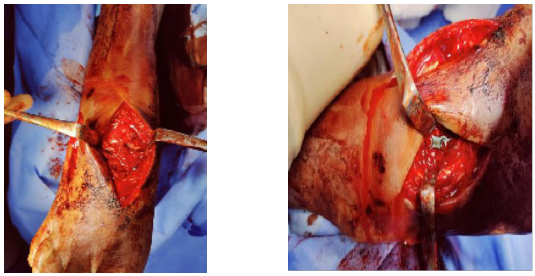
During Examination:

- Right foot was deformed, and severe oedema was present
- The pathognomonic feature, bruises over plantar aspect of foot was absent
- Ecchymotic patches were present over the dorsal aspect of foot and lower leg

Pre-operative X-ray showing AP and Oblique views of Right Foot Homolateral dislocation of 1st, 2nd, and 3rd tarsometatarsal joints, fracture of 4th metatarsal bone, subluxation of 4th and 5th tarsometatarsal joints

DURING PROCEDURE

- The procedure was done under spinal anaesthesia.
- Right foot and lower leg were prepared and draped.
- Closed reduction of the first metatarsal was attempted initially, however, failed.
- A dorsomedial longitudinal incision was put just lateral to the EHL tendon.
- EHL retracted medially and neurovascular bundle laterally. The capsule of the 1st tarsometatarsal joint was found to be obstructing the reduction of the joint which was retracted and the joint reduced and fixed with 4 mm cannulated cancellous screw.
- The 2nd tarsometatarsal joint was reduced and fixed with 4 mm cannulated screw inserted from the base of 2nd metatarsal to medial cuneiform.
- Another dorsolateral longitudinal incision was put in the 3rd webspace, and the 3rd metatarsal was reduced and fixed to the lateral cuneiform with locking plate and screws.
- Radiological parameters of acceptable reduction were checked under C-arm.
- Wound was closed in layers after attaining haemostasis and below knee splint was applied.



Intra-operative image showing Dislocated Tarsometatarsal Joints

Post-operative X-ray

POST PROCEDURE

The patient was discharged from the hospital on the 3rd day with advice to keep limb elevated and non-weightbearing for 3 months.

Image after Suturing

Image after Suture Removal

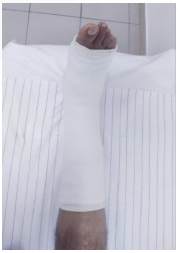


Image after applying below-knee cast

DISCUSSION

The Lisfranc joint derives its name from Jacques Lisfranc (1790-1847), a surgeon in Napoleon's army. Lisfranc performed amputations through the Tarsometatarsal joint to treat gangrenous injury of the foot. Injuries of the Lisfranc joint are rare, representing less than 0.2% of all orthopaedic traumas. However, as many as 20% of Lisfranc injuries are missed on initial examination.

Mild sprains to the Lisfranc joint where there is no evidence of diastasis may be treated by immobilization. Injury associated with fracture and dislocation, as in this case, requires Open Reduction and Internal Fixation.

Surgery may be postponed to reduce tissue oedema; however, in this case, surgery was done within 24 hours as the patient had severe oedema over the foot and a risk of compartment syndrome was present. Non-weight-bearing was advised for 3 months after surgery, and complete recovery often takes up to 1 year, although long-term disability is possible.

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Capsule Endoscopy for Crohn's Disease

Capsule Endoscopy for the Diagnosis of Crohn's Disease

Dr. Thomas Joseph
Gastroenterology, AJMC, Bur Dubai

Crohn's disease (CD) is a chronic inflammatory bowel disease (IBD) affecting any segment of the gastrointestinal tract, from the oral mucosa to the anus, with a particular impact on the small intestine (1). The symptoms of Crohn's disease include diarrhoea, pain and cramps in the abdomen, and weight loss based on the severity of the disease (2). It has been linked to low quality of life and frequently leads to hospitalizations and surgical procedures(1).

In the past, assessment of the small bowel by using conventional endoscopy was limited due to inability to visualize the mucosa (3,4). Capsule endoscopy (CE) is an innovative technology that enables visualization of the small bowel lumen and can diagnose lesions not previously detected by conventional endoscopy (5). The non-invasive nature and direct visualization of the small bowel mucosa make CE an important and effective tool for diagnosing Crohn's disease (5,6)

Moreover, several studies have demonstrated that CE is superior to other techniques such as conventional endoscopy, barium follow through, push enteroscopy and computed tomography enterography for the diagnosis of small bowel disorders (6). In this article, we explore the utility of CE for diagnosing Crohn's disease in patients.

How is CE Performed for Diagnosing Crohn's Disease?

A CE can be prepared for an outpatient setting and is similar to colonoscopy preparation which includes specific dietary changes for proper visualisation during the procedure (7). Crohn's disease can be diagnosed via a CE procedure, which involves the following steps:

- The day before the procedure, patients are advised to stay on a clear liquid diet and prior to taking the capsule, patients must fast for 10 to 12 hours (7).

- It is advised to take polyethylene glycol solution the night before the procedure to clear food and stool debris out of the gastrointestinal tract which may improve visualization (7).

- The patient is provided with a sensor belt consisting of a data recorder around the waist before the video capsule is ingested, which gathers the capsule's transmitted images (7).

- The capsule consisting mini camera is ingested just like any other normal capsule and travels through the gastrointestinal tract, eventually being eliminated with a bowel movement in the next 24-48 hours (7).

- Images are acquired and transmitted to the data recorder which converts them into a video format that can be viewed on a computer (7).

- This video consisting of images helps in diagnosis by detecting small bowel mucosa or lesions associated with Crohn's disease (4)

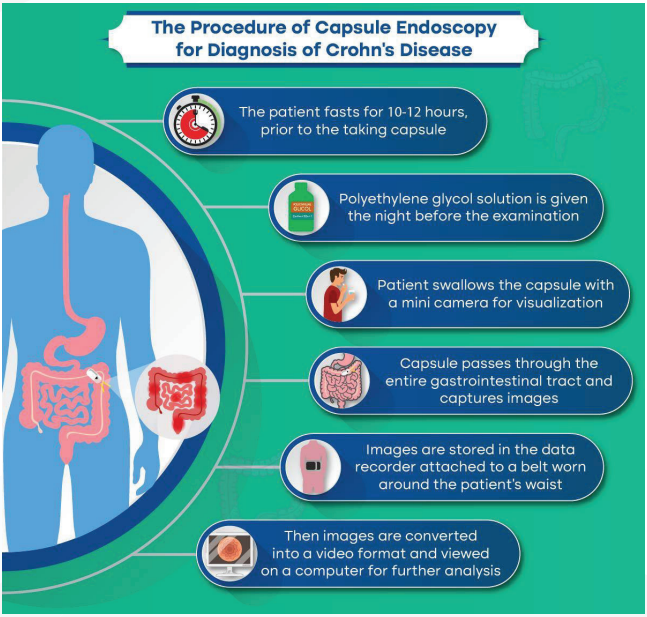


Figure 1: The procedure of capsule endoscopy in Crohn's disease diagnosis (7)

Advancements in Capsule Endoscopy

- Since CE cannot be positioned in the body as intended by the examiner, an advanced version, magnet-assisted capsule endoscopy (MACE) has been developed (3). MACE is an examination tool that observes the gastrointestinal tract by controlling the location of the capsule endoscope swallowed by the patient using a magnetic field in real-time (3).

- Procedures such as biopsy are not possible while performing capsule endoscopy (3). To overcome this limitation, CE uses a cutting tool with two circular cutting knives based on a magnetic torsion spring mechanism (3). The chamber opens when an external magnetic field is applied, aligning the ring-shaped knife with the direction of the external magnetic field (3). The chamber closes and the acquired tissue material is inserted inside when the external magnetic field has been removed (3). The lateral hole is opened by placing the capsule near an external magnet after it has been removed from the lumen, and the tissue sample is then extracted using surgical tweezers (3).

Capsule Endoscopy Findings in Crohn's disease

Capsule endoscopy can detect various lesions seen in Crohn's disease including edema of the villi, hyperemia, erosions, ulcers, and strictures. However, none of these lesions are specific for Crohn's disease. So various scoring systems like Capsule Endoscopy Crohn's Disease Activity Index (CECDAI) and Lewis Score are used to objectively quantify the inflammatory activity and stratify disease severity (8).

Small Ulcer | Deep Ulcer | Erosion

Advantages of Capsule Endoscopy over other Endoscopic Diagnostic Techniques

Capsule endoscopy is an important means of evaluating the gastrointestinal tract (7). The advantages of capsule endoscopy over other endoscopic diagnostic techniques are:

- Compared to conventional endoscopy, capsule endoscopy is a less invasive examination method that does not require sedation during the evaluation and reduces the patient's discomfort (7).
- Capsule endoscopy is a safe, painless, non-infectious method for diagnosis and enables easy access to structures such as the small intestine that were previously difficult to access by routine endoscopy (3,7).
- It has a higher diagnostic yield than many other endoscopic techniques such as colonoscopy, push enteroscopy, and computed tomography enterography for evaluating the small intestinal lumen and it is useful for detecting superficial or occult lesions that are not detected by other imaging techniques (7,8).

- Lower complication rates of capsule endoscopy make it an appealing choice for evaluation of the intestinal lumen compared to other endoscopic techniques (7).

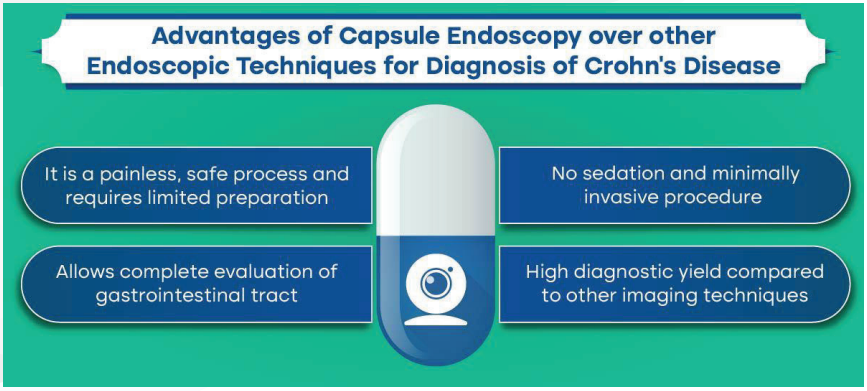


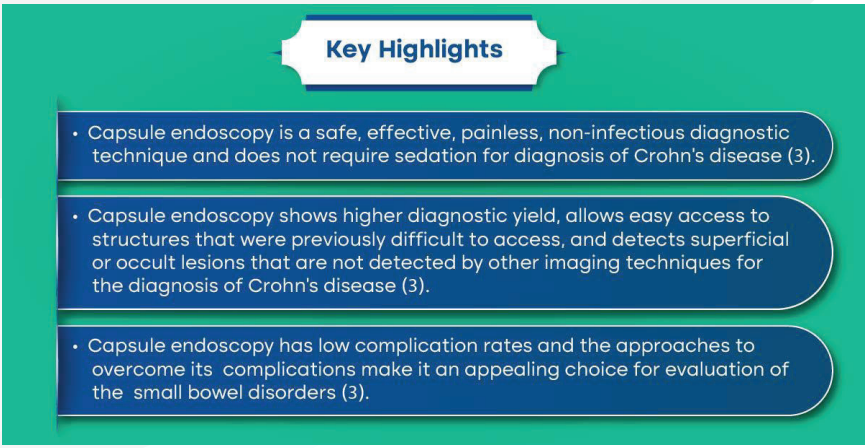
Figure 2: Advantages of capsule endoscopy over other endoscopic techniques for Crohn's disease diagnosis (7)

Challenges in Capsule Endoscopy and Approaches for Overcoming them

Capsule endoscopy has continuously improved since it has been applied in clinical practice (3). Although there are challenges associated with CE, they can be overcome by various approaches mentioned below (3).

- While performing capsule endoscopy for diagnosis of bowel disorders, there is a risk of capsule retention (3). In such cases, if the capsule is not ejected within 2 weeks after administration or an intestinal obstruction occurs, then surgery is required for retrieval of the capsule (3). To prevent this risk of capsule retention, a patency capsule is used by gastroenterologists which is made up of soluble and biocompatible materials (3). However, in patients with suspected high grade intestinal strictures, it is not advisable to use capsule endoscopy

- Unlike conventional endoscopes, air cannot be adequately inflated, limiting sufficient observation of the gastrointestinal tract (3). Therefore, to overcome this complication, a new wirelessly controlled CO2 insufflation system is used in colorectal capsule endoscopy (3).



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Dr. Sudheer Salavudeen
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Removal of Extra Adrenal Paragangliomas

Successful Removal of All Extra Adrenal Paragangliomas - Carotid Body and Aortic Locations at Aster Hospital, Al Qusais

PRESENTATION

- 36 year old male
- Medical history of diabetes
- History of right flank pain with recurrent episodes of vomiting from last 2-3 weeks
- No family history of medical illness
- Admitted with:
  - Abdominal discomfort
  - Right neck pain

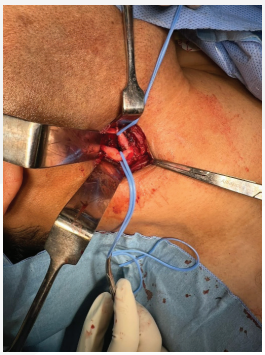
FINDINGS

During Examination:

- Tense and tender pulsatile swelling noted in the right neck region causing pain and discomfort
- Epigastric discomfort with bloating and dyspepsia observed
- PET-CT scan showed findings of neck and abdominal mass
- Doppler scan study showed features of Carotid Body Tumour with splaying
- Urinary 5-HIAA (5- hydroxyindoleacetic acid) and VMA (VanillylMandelic acid) within the normal range

DURING PROCEDURE

- Under general anesthesia, patient was laid in supine position.
- Ultrasound guided localization of the mass was done, and parts were painted and draped.
- Cervical skin crease incision was made and subplatysmal flaps were raised.
- 2x2 cm of carotid body tumour was observed in the bifurcation of the right common carotid artery.
- Excision of the tumour was done with meticulous dissection, to avoid cranial nerve injury.
- Hemostasis was achieved, minivac drain was placed and wound was closed in layers.



Intra-operative image of
Carotid Body Tumour Excision

Midline Retro Peritoneal Tumour Excision (Aortic Paraganglioma Tumour)

With a history of carotid body tumour removal, a month back; the patient started facing recurrent abdominal pain with vomiting and was admitted for the removal of retro peritoneal tumour:

- Midline exploratory abdominal incision was made, deepened and abdominal contents were exteriorized.
- Retroperitoneal layer was opened, and aorta was explored at supra renal level.
- Paraganglioma tumour mass was seen anteriorly abutting the aortic wall.
- Careful dissection was made, and tumor mass margins were delineated.
- Excision made with ligasure, monopolar, bipolar cautery devices and the mass was removed in bits and pieces.
- Hemostasis was secured, drain kept and abdomen was closed in layers.

Intra-operative image of
Aortic Paraganglioma Tumour Excision

Post Procedure

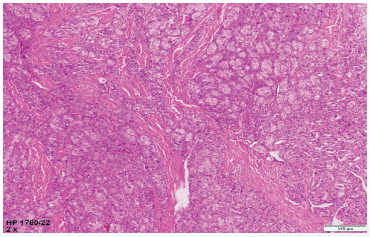
Patient tolerated the procedure well and was in a stable condition at the time of discharge.

DISCUSSION

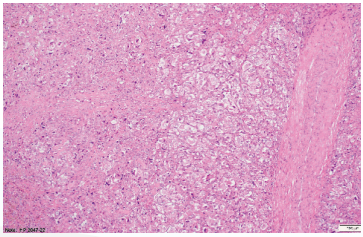
Carotid Body is the largest collection of paraganglia in the head and neck and is found on the medial aspect of the carotid bifurcation bilaterally. Carotid Body Tumours (CBT) are rare neoplasms arising from the chemoreceptor cells of the carotid bulb. CBT are sporadic or familial. Familial tumours often are bilateral and multicentric. CBTs are rarely functional or malignant, but those with the familial history or bilateral tumours should undergo a 24-hour urine screening for metanephrines and catecholamines. CT Angiography of the neck and abdomen is the most useful study to plan operative treatment.

Paragangliomas are tumours arising from extra-adrenal chromaffin tissue. Its treatment must be decided with a multidisciplinary setting. Complete surgical resection without microscopic residue remains the only curative treatment with a survival rate exceeding 75% at five years.

For this patient, histopathology examination was done post 2 weeks of surgery on the tumour mass to confirm the findings. Removed lesional cells were stained with immunohistochemical markers, chromogranin and synpatophysin that confirmed the presence of Carotid Body Tumour and Aortic Paraganglioma Tumour Mass.



Histopathology Image of Carotid Body Tumour



Histopathology Image of Aortic Paraganglioma Tumour

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3. Aortic paraganglioma requiring resection and replacement of the aortic root, Sai Yendamuri, Mohammed Elfar, Jon-Cecil Walkes, Michael J. Reardon
4. Management of a Left Lateral Aortic Paraganglioma A Rare Case Report, Mohamed Yassine Mabrouk,corresponding author1 Rachid Jabi,1 Laila Bouzayan,1 Kradi Yassin,2 and Mohammed Bouziane

Giant Phyllodes Tumour

Successful Removal of Giant Phyllodes Tumour from the Left Breast at Aster Hospital, Mankhool

Dr. Vanesha Varik
General & Laparoscopic Surgery (Specialist)

PRESENTATION

- 31 year old female
- No medical history
- No significant family history
- Admitted with:
  - Complaints of large growth in left breast with pain since last 2 years
  - Grew rapidly during her 9 months of pregnancy
  - Brownish fluid discharge after it burst 1 month ago

FINDINGS

During Examination:

- Huge mass (25x30 cms) occupying the entire left breast
- Lobulated margins with variegated consistency with soft and firm areas
- Free nipple–areolar complex (NAC), but skin stretched thin and adherent at places
- Presence of ulcer (2x1 cms) with necrotic tissue at 5 o'clock

Ultrasonography of both breasts showed a huge multiloculated mass lesion involving the left breast, measuring 16.3 x 14.6 x 12.2 cm in size. Multiple varying-sized cystic spaces were seen in the periphery of the mass lesion. The mass had well-defined lobulated margins suggesting the possibility of a phyllodes tumour. It compresses the underlying pectoralis muscle; however, the present scan could not assess muscle infiltration.

No significantly enlarged axillary lymph nodes were seen on either side.

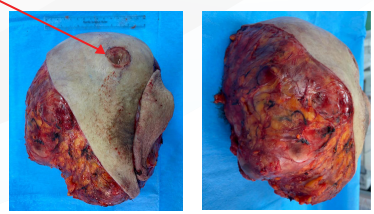
Core Biopsy was done suggestive of phyllodes tumour with extensive infarction.

DURING PROCEDURE

- Left Simple Mastectomy (Nipple preserving) was performed under general anaesthesia.
- Elliptical incision was given including the ulcer at 5 o'clock (Sparing / preserving the nipple areolar complex).

- Skin flaps were raised, phyllodes tumour was dissected all around and excised from the surrounding breast tissue (small uninvolved amount in the lower inner quadrant) and pectoralis fascia in toto.

Pre Operative Images



Specimen Excised

Post Excision
Final Appearance

HISTOPATHOLOGY REPORT

Left breast simple mastectomy:

- Features are of a borderline Phyllodes Tumour
- Resected margins: Free of tumour
- Tumour size: 23x19x9.5cm
- Histologic type: Phyllodes tumour, borderline
- Stromal cellularity: Moderate
- Stromal atypia: Moderate
- Stromal overgrowth: Present
- Mitotic rate: 35/10HPF
- Histologic tumour border: Focally infiltrative
- Malignant heterologous elements: Not identified

DISCUSSION

Phyllodes tumours are fibro-epithelial breast tumours that are capable of a diverse range of biological behaviours. They typically have larger sizes and grow rapidly. Complete surgical excision is the standard of care for all phyllodes tumours.

The need for adjuvant radiotherapy depends on final histopathology report. Only borderline/malignant

need adjuvant radiotherapy after complete excision and this substantially reduces recurrence rates.

Most phyllodes tumours have good prognosis and even malignant ones have approximately 60-80% survival rate at 5 years.

Clinical Breast Examination every 6 months for 2 years after initial treatment of phyllodes is recommended and then annually. The patients may need more frequent follow up if malignant and higher risk of metastasis, usually as per soft tissue sarcoma guidelines.

CONCLUSION

This patient had borderline disease and has received adjuvant radiotherapy. She is doing well and has met the doctor post radiotherapy. She is scheduled for 6-month follow up.

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