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Complicated Impacted Foreign Body in the Esophagus / A Case Report

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Introduction:-

Perforation of the Esophagus

Causes :-

1-Iatrogenic Esophageal perforation following instrumentation either by the rigid esophagoscope or by bougienage. Is the most common cause of perforation.

2-Traumatic perforation due to foreign bodies ingestion or blunt and penetrating trauma

3-Spontaneous rupture (Boerhaave‘ s syndrome) due to the strain of emesis with or without predisposing disease .

- The sites of the normal anatomical constriction, are the most common sites of perforation .
- The consequence of the perforation is the contamination of the peri- esophageal space with the digestive fluids, food and bacteria which can lead to extensive suppuration and sepsis.
- Even perforation of the cervical esophagus can extend into the mediastinum along the facial planes and results in chemical and infectious mediastinitis, which is lethal unless treated early.

Note:- Any patient presents with new symptoms after instrumentation should be considered to have perforation until proved otherwise.

Clinical manifestations:

Acute chest pain, fever, dysphagia, cervical pain or crepitation, dyspnea and pneumothorax.

In severe cases cyanosis and occasionally subcutaneous emphysema may be seen.

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Treatment ;

Conservative measures:-

Medical treatment consists of the following steps:-

1- NBM (Nil by mouth)

2- IVF calculated according to body weight

3-The introduction of Nasogastric tube is risky unless it should be cautiously under screen or under

direct vision , through which one can start nasogastric feeding in upright or semi sitting position

4- One can arrange gastrostomy or jujenostomy , through which one can start feeding once bowel

sound becomes positive and recently (PEG =Percutaneous Endoscopic Gastrostomy) became more popular.

The above mentioned steps should continue for 5-7 days or more. Then contrast study can be arranged and few cases need longer period. During these days one should monitor Blood picture, Blood urea, Serum Creatinine and Electrolyte .

Surgical option:-

It includes closure of the perforation. The approach depends on the site of perforation .

Surgery involves -:

- Debridement of infected or necrotic tissue.
- Closure of the perforation.
- Treatment of the underlying pathology with drainage of mediastinum.

A Case Report

A three years old child (Burak Wesam) presented with Dysphagia, Drooling of Saliva & Chest Pain to the hospital with history of foreign body ingestion in Thi-Qar governorate.

Figure(1):- Initial Chest X-ray (PA view) of the patient at time of presentation before doing rigid esophagoscopy by one of our colleagues in Thi-Qar governorate. The foreign body is lodged in the lower part of thoracic esophagus without the presence of signs of esophageal perforation and the patient was clinically stable

The patient had been exposed to rigid esophagoscopy by one of our colleagues in Thi-Qar governorate but the foreign body could not be retrieved and the patient deteriorated gradually. As a result, the patient's family decided to leave the hospital on their responsibility and consulted my clinic. When I received the patient he was severely dyspnic with signs and symptoms of sepsis. The patient was sent for Chest X-Rax revealing the presence of foreign body in the lower most part of esophagus with presence of signs of perforation of the esophagus.

Figure (2):- The new Chest X-Ray (PA view) shows the foreign body in the lower most part of esophagus due to the fact that the foreign body was pushed downwards by one of our colleagues during rigid esophagoscopy so that the foreign body became impacted at the gastro-esophageal junction. Signs of perforation of the esophagus was also recognized which led to accumulation of esophageal contents in the right pleural cavity.

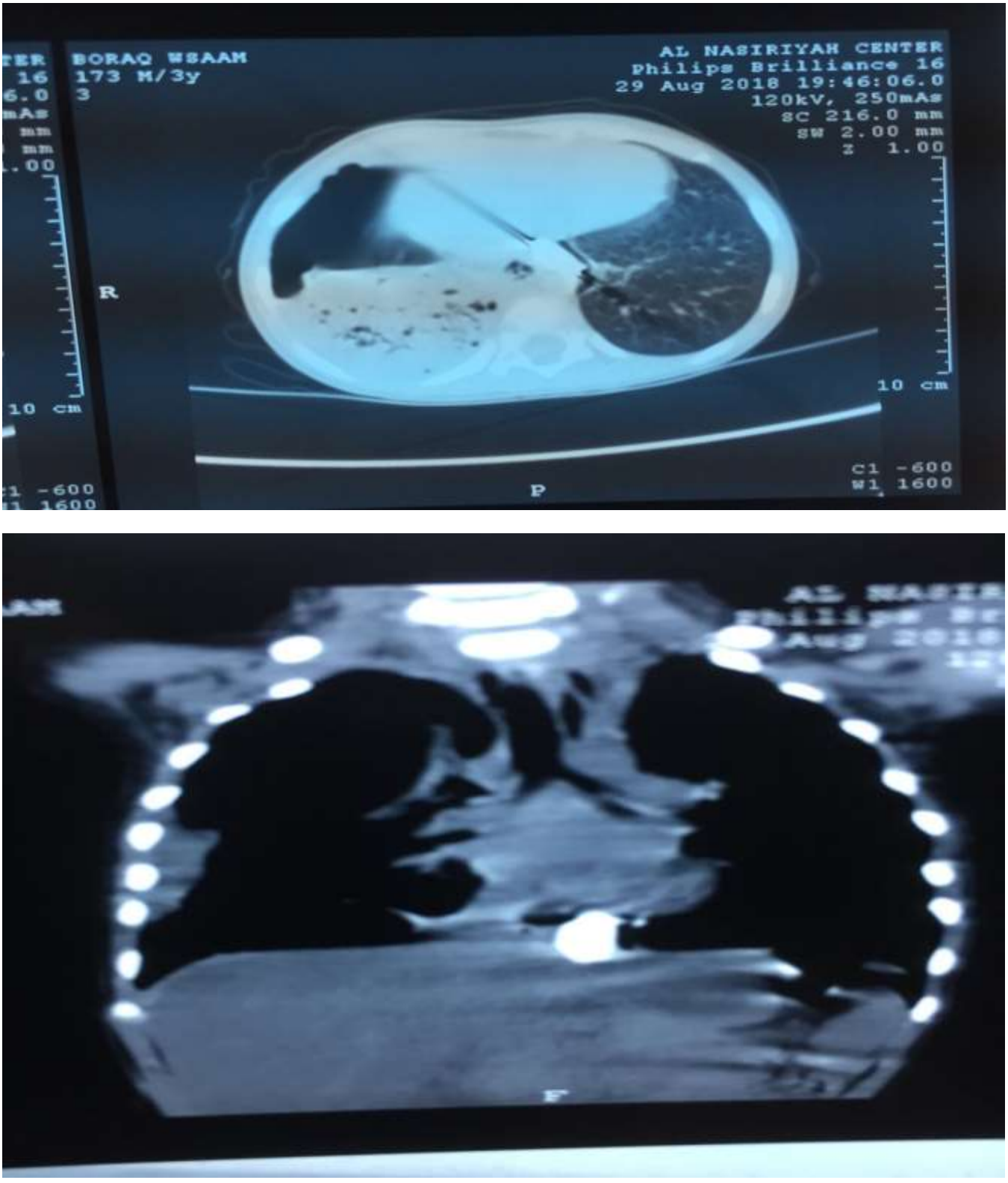


Figure (3) :- CT scan of the chest showing the foreign body obviously in the lower most part of esophagus at the gastro-esophageal junction with presence of air and fluid inside the right pleural cavity associated with consolidation of right lung after carrying out rigid esophagoscopy by one

of our colleagues.

The steps of treatment of this patient was as follows:-

At 1st day right tube thoracostomy was done successfully. Pus and air could be drained inside the collecting bottle of under water seal drainage system from the right pleural space.

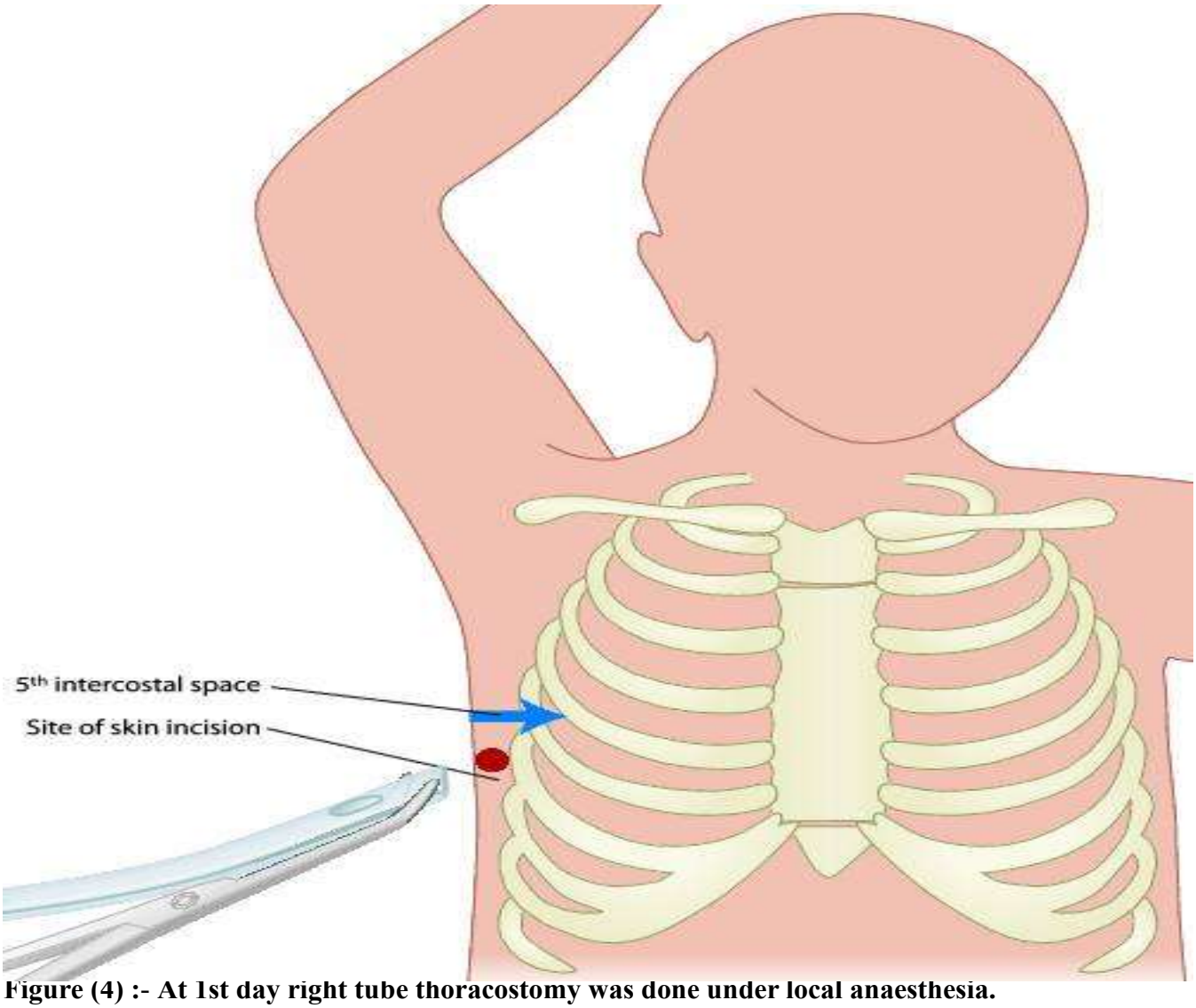
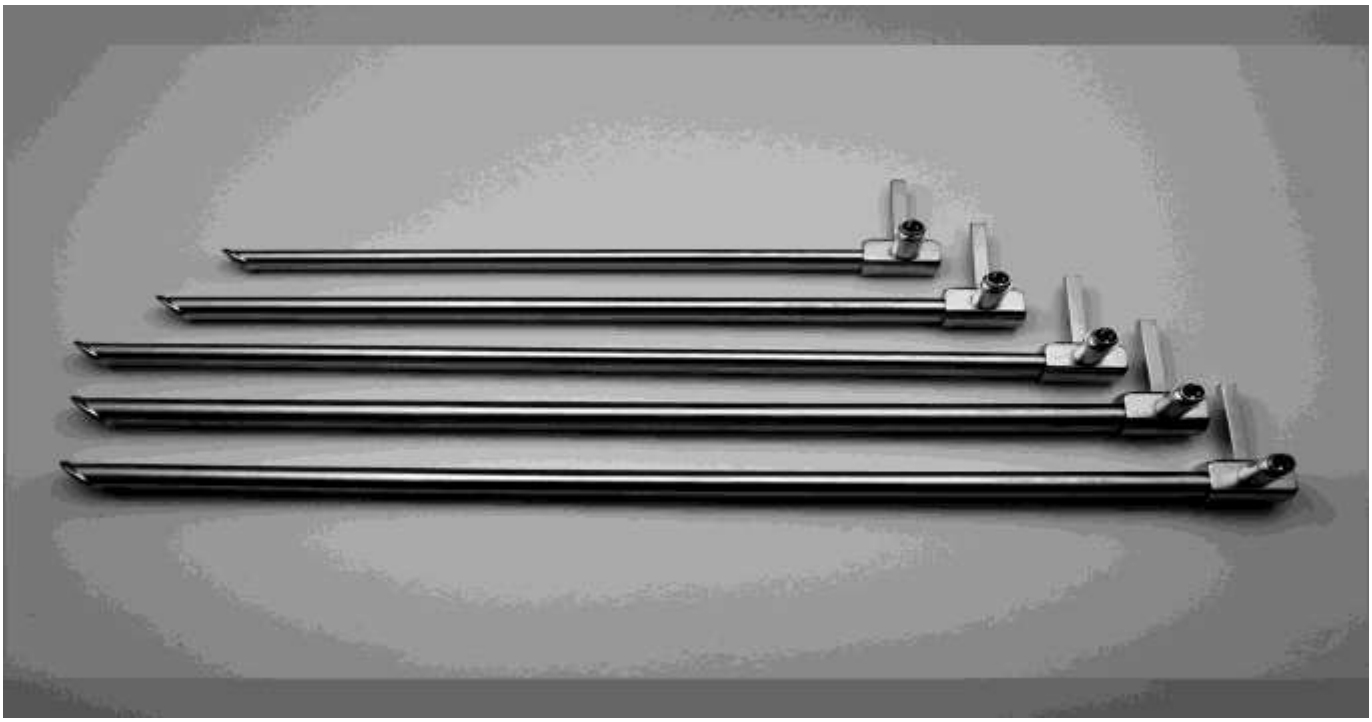
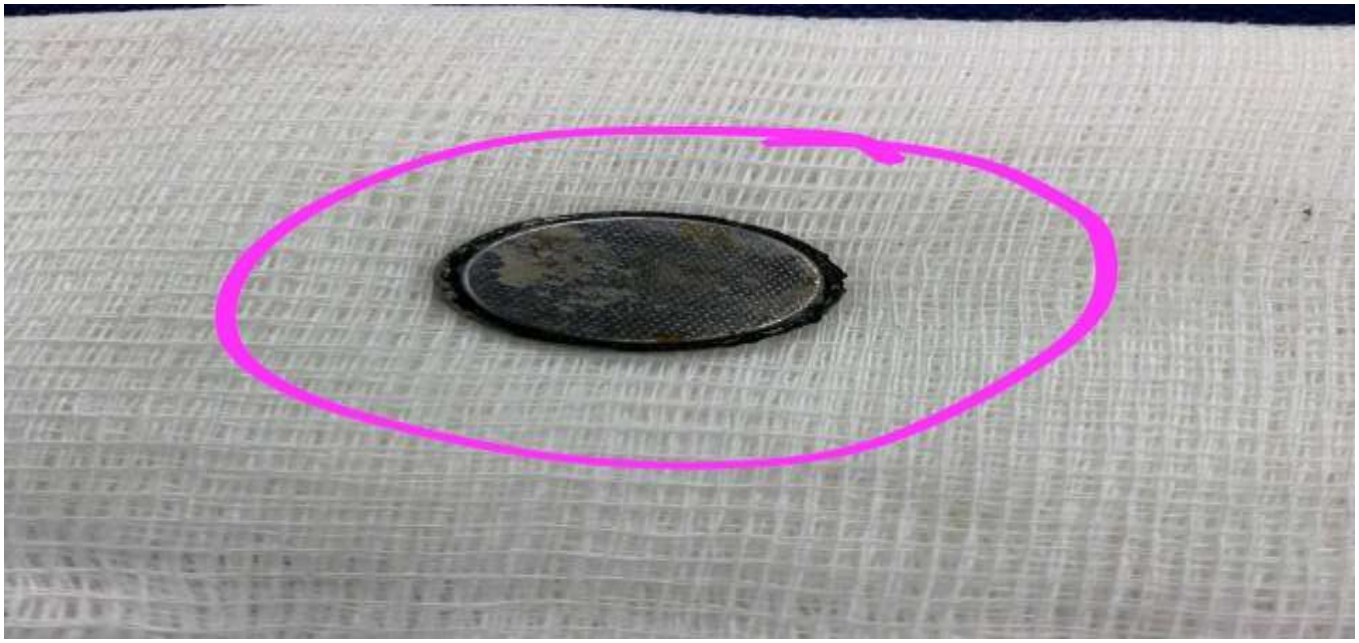


Figure (4) :- At 1st day right tube thoracostomy was done under local anaesthesia.

The next step included rigid esophagoscopy which was done successfully under general anaesthesia and the foreign body was retrieved from the esophagus at the gastro-esophageal junction. In addition the site of perforation was identified in the lower thoracic part of esophagus.



Figure(5) :- The instruments used in rigid esophagoscopy



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Figure(6) :- The foreign body (watch battery) which was retrieved by rigid esophagoscopy under general anaesthesia.

Due to the fact that oral feeding is contraindicated in esophageal injury feeding jejunostomy tube was inserted under general anaesthsia by a general surgeon and enteral feeding was initiated successfully after a trial of injecting contrast material inside the feeding jejunostomy tube. Providing nutrition is mandatory for the patient to prevent further catabolism in the body and provide calories to the patient and prevent bacterial translocation from the lumen of the bowel to the circulation. In addition, good nutrition enhances healing of the surgical wound.

Figure (7) :- Abdominal X-Ray (AP view) after feeding jejunostomy tube was inserted and enteral feeding was initiated successfully after a trial of injecting contrast material inside the feeding jejunostomy tube.

The last step in the management of the critically ill patient was by right thoracotomy during which the pus in the right pleural cavity was drained followed by irrigation of the infected area. Then decortication was done and the two short limbs of the T-Tube were inserted inside the esophagus through the site of esophageal perforation and the long single limb was directed by the shortest possible course to the chest wall and out of the body of the patient. In addition a chest tube was also put to drain the right pleural cavity and enhance right lung expansion.

Figure(8) :- Right thoracotomy was done during which irrigation of the right pleural cavity was carried out followed by decortication. The picture shows the decorticated thickened pleura.

Figure (9) :- The T-Tube (size 14 French) which was used in our patient. The two short limbs were inserted inside the esophagus through the site of esophageal perforation and the long single

limb was directed towards the chest wall.

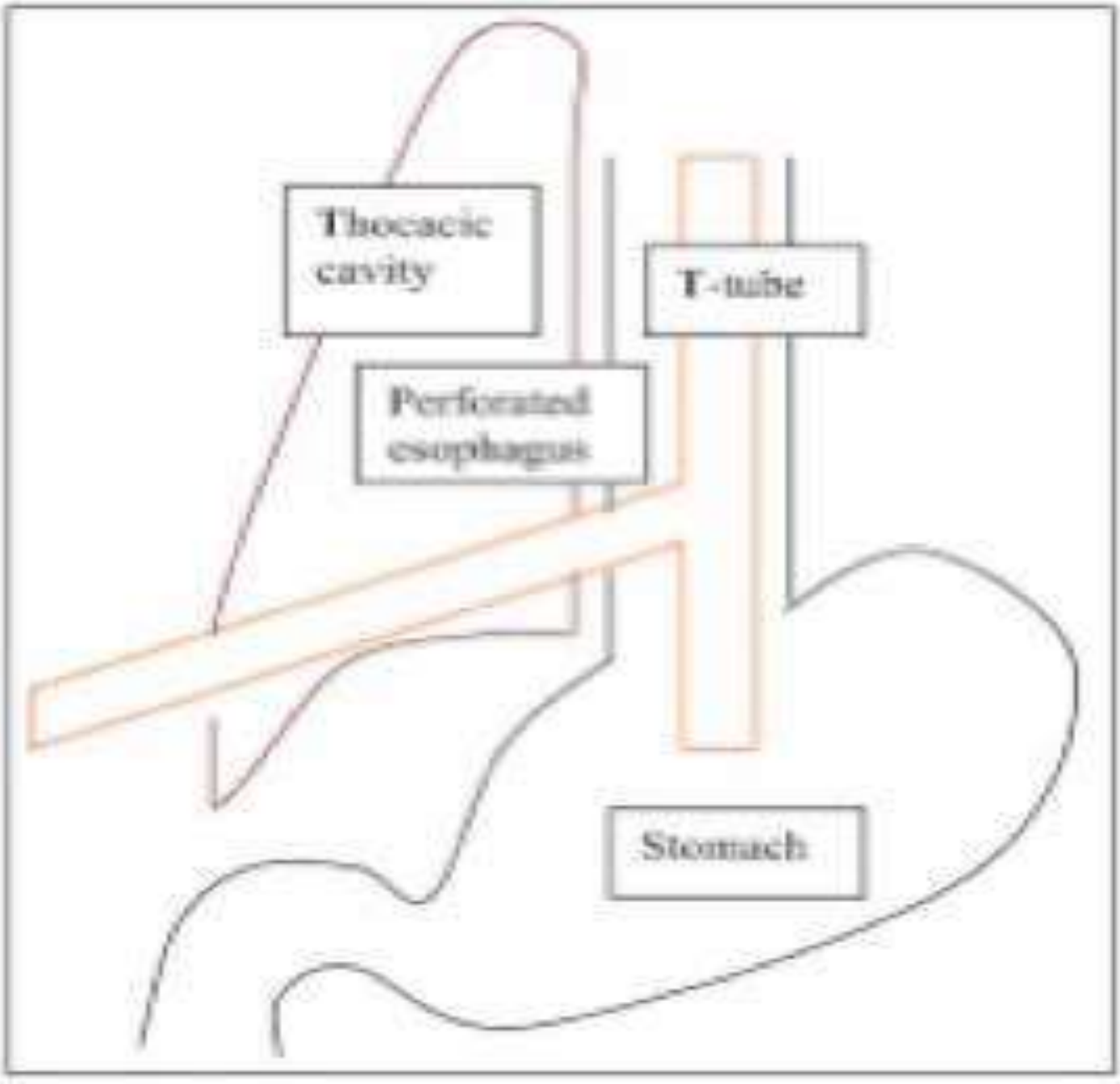

Figure (10) :- **The scheme shows how the T-Tube is lodged inside the perforated esophagus**

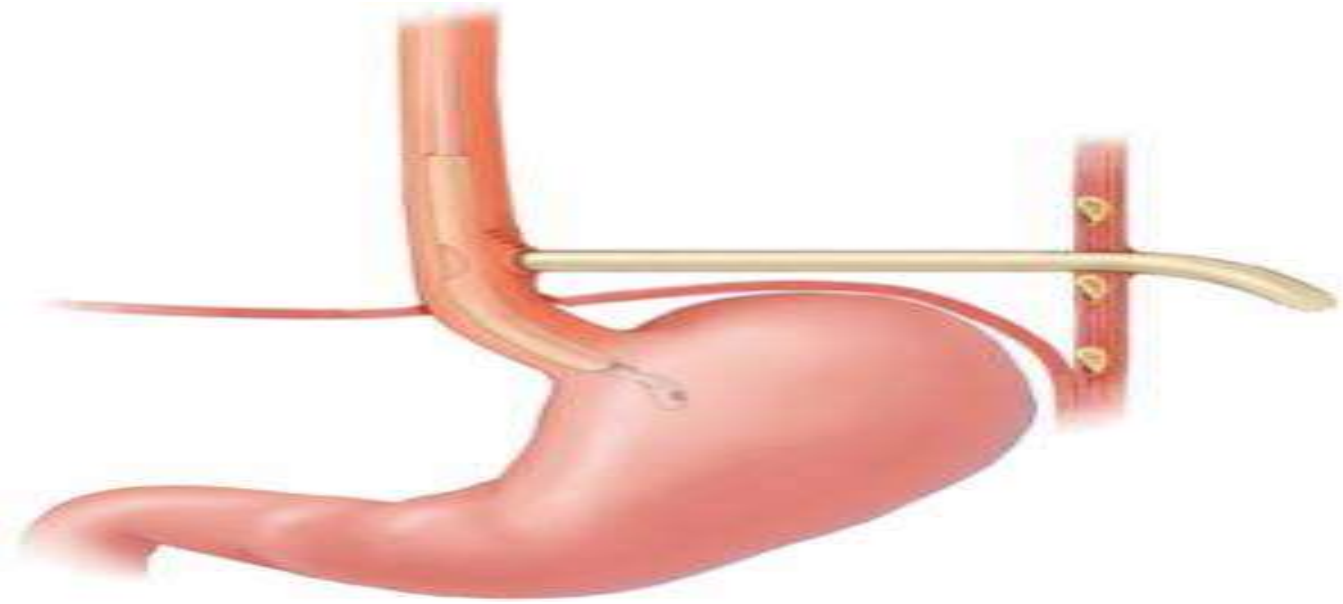

Figure (11) :- Another scheme shows how the T-Tube is lodged inside the perforated esophagus

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Figure (12) :- After 4 weeks of last surgical intervention (thoracotomy) showing the patient sitting on the bed in the ward with the T-Tube, chest tube and feeding jejunostomy tubes still inside the patient with no signs and symptoms of sepsis.

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Chest X-ray (P.A. view) after removal of T-tube

Figure (13) :- **The Chest X-Ray (PA view) after 6 weeks of Thoracotomy showing fully expanded right lung with no air and/or fluid inside the pleural cavity.**

After the patient became stable, Barium swallow was done and the esophagus was found to be patent with no leakage to right pleural cavity. As a result oral feeding was resumed.
Afterwards the T-Tube was removed followed by removal of feeding jujenostomy tube. Lastly the chest tube was removed after ensuring no collection of fluid and/or air inside the right pleural cavity and after ensuring no leakage of esophageal contents into the right pleural cavity.

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Figure (14) :- Chest X-ray (PA view) after Removal of Chest Tube and complete recovery of the patient.

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Figure (15) :- A picture taken with the patient and his grandfather after 3 months of discharge from hospital.

Figure (16) :- A picture taken for the patient after 4 months of discharge from hospital.

Figure (17) :- Another picture taken for the patient after 4 months of discharge from hospital.

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Figure (18):- **A picture taken for the patient after 4 years of discharge from hospital.**

Figure(19) :- Another picture taken for the patient after 4 years of discharge from hospital.

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