

Intercollegiate Specialty Examination in Paediatric Surgery

General & GI Surgery

Theme: Spherocytosis

Scenario:

A 15 year old girl with known hereditary spherocytosis presents with a history of intermittent abdominal pain requiring 3 hospital visits this year. She underwent a cholecystectomy four years ago and now wants a splenectomy.

Question 1: (e.g. integration of information presented/application of basic principles to the situation described in the scenario/differential diagnosis)

How would you manage this situation?

Is the pain related to her spleen?

Explain the risks and benefits of splenectomy?

Key points for discussion:

How do you determine the need for splenectomy?

Will splenectomy abolish the pain? Would investigations help? Which investigations?

Preparation for splenectomy

Question 2: (e.g. management, relevant applied pathophysiology, anatomy)

You have completed a laparoscopic splenectomy. What are the options for retrieving the spleen?

You elect to macerate the spleen in a bag. Unfortunately the bag ruptures as you are about to retrieve it. How would manage this situation?

Key points for discussion:

Risk of peritoneal seeding - Consider lavage or laparotomy. Which would you choose and why?

Question 3: (complications of management)

At 12 hours post op you are called by the on call registrar. The patient has a fever (38.8°C) and tachycardia (148 beats/min). The abdomen is diffusely tender. Her condition stabilises after a bolus of IV fluid and morphine. How would you manage this situation?

Key points for discussion:

Consider bleed, perforation or a pancreatic injury.

Investigations? Which? Why?

What factors will you consider when making a decision about reoperation?

No exhibits

End of Item D36301

Intercollegiate Specialty Examination in Paediatric Surgery

Neonatal Surgery

Theme: Oesophageal Atresia

Scenario:

You are telephoned at 9pm by a Paediatric Registrar from a District General Hospital 20 miles away. He has admitted a newborn who was noted to have mild respiratory distress at birth which has now settled. An attempt was made to pass a nasogastric tube but the tube would not pass beyond 10 cm.

Introductory question: (e.g. integration of information presented/application of basic principles to the situation described in the scenario/differential diagnosis)

What information you want to ascertain from the referring paediatrician?

Key points for discussion:

Sounds like oesophageal atresia.

Have they taken a CXR and is there gas in the stomach? Need to establish if there is a tracheo-oesophageal fistula.

What is the gestation and birth weight of the baby? Why is this important?

Are there any other obvious anomalies? What abnormalities would you look for? Why do these abnormalities occur together?

Question 2: (e.g. management, relevant applied pathophysiology, anatomy)

What advice would you give on the immediate management?

The x-ray suggests oesophageal atresia with a tracheo-oesophageal fistula.

Key points for discussion:

Replogle tube on continuous suction and nurse baby head up

What if no Replogle tube available?

General newborn management, including fluids and vitamin K

What advice would you give regarding transfer and timing of transfer to the tertiary centre?

What factors do you consider when determining the urgency for transfer of the baby?

You don't have a neonatal cot free. How does this alter your advice?

If baby is stable could transfer be delayed until the next morning?

Question 3: (complications of management)

The Paediatric Registrar rings with an update. The baby is needing CPAP but deteriorating. He is worried about endotracheal intubation. What advice would you give now?

Key points for discussion:

Do not delay intubation if this is necessary but try to avoid bag and mask ventilation

Need to arrange urgent transfer. Why?

Evolution and natural history of hyaline membrane disease

Gastric distension with the potential for gastric perforation

If gastric perforation occurs how would you advise the paediatrician? Why?

No exhibits

End of Item D18806

Intercollegiate Specialty Examination in Paediatric Surgery Oncology & Endocrine

Theme: Unexpected tumour identified at surgery

Scenario: You are performing an open appendicectomy on a 3 year old boy who presented with clinical features of acute appendicitis and raised inflammatory markers. Preoperatively he was reluctant to be examined. At operation you find turbid peritoneal fluid but a normal appendix. A ‘tennis ball’ sized mass is palpable in right upper quadrant.

Question 1: How would you proceed?

Key points for discussion:

Unexpected finding at surgery. Discuss a differential diagnosis.

Consider and justify the following surgical options

1. Close patient and obtain imaging
2. Extend incision and biopsy
3. Obtain informed consent then extend/change incision and resect

Question 2: How would you investigate this child?

Images from an MR scan are available which show a renal mass with subcapsular haemorrhage.

Key points for discussion:

What information do you want from the investigations?

Understand the principles of management of renal tumours in children

Question 3:

How would you manage the patient given the MRI findings?

Key points for discussion:

What are the advantages/disadvantages of delayed primary resection of the tumour?

Radical nephrectomy without a clear histological diagnosis.

End of Item D38354

Intercollegiate Specialty Examination in Paediatric Surgery

Emergency Surgery & Trauma (E)

Theme: Oesophageal foreign body

Scenario: A 2 year old is admitted with dysphagia and is suspected to have a foreign body (coin) lodged in the oesophagus

Question 1: (e.g. integration of information presented/application of basic principles to the situation described in the scenario/differential diagnosis)

How would you investigate this child? Why?

Where is the most likely place to find a foreign body in the oesophagus? Why?

Key points for discussion:

Chest x-ray. Discuss the use of metal detectors.

Should be able to describe likely sites of obstruction and why objects become lodged at these sites

Question 2: (e.g. management, relevant applied pathophysiology, anatomy)

What strategies do you know for removing foreign bodies from the oesophagus?

How would you decide which to use?

At 01:00, is it OK to postpone oesophagoscopy until the morning? What would influence your decision?

Key points for discussion:

Rigid oesophagoscopy, flexible endoscopy & use of various devices through scope, use of a Foley catheter, Magills forceps if at cricopharyngeus etc.

Whether it is safe to delay endoscopy depends on symptoms and the nature of the foreign body.

A button battery should be retrieved urgently.

Question 3: (complications of management)

How would you investigate a child who presented with recurrent bolus obstruction in the oesophagus? Why?

Key points for discussion:

This depends on what is getting stuck and the previous medical history. Important to consider a stricture or motility disorder. Radiology, endoscopy and manometry may all be relevant investigations.

No exhibits

End of Item D21049

Intercollegiate Specialty Examination in Paediatric Surgery

Urology

Theme: Renal function

Scenario:

The SHO calls you about a baby with oesophageal atresia. Bloods on day 2 have shown a Serum Creatinine of 99mmol per litre

Introductory question: (e.g. integration of information presented/application of basic principles to the situation described in the scenario/differential diagnosis)

What do you think could be going on?

Key points for discussion:

Maternal creatinine

Abnormal kidneys

Question 2: (e.g. management, relevant applied pathophysiology, anatomy)

- a) What happens to the serum creatinine after birth
- b) Why?
- c) What is the prognostic significance of a creatinine of 180 at age 15 days in PUVs post drainage and why?

Key points for discussion:

- a) Falls 50% in 1 week
- b) Increasing GFR due to increased renal blood flow and reducing glomerular resistance – occurs in poor kidneys as well as good kidneys
- c) Not much – the GFR is so low and the figure may eventually normalise due to increasing blood flow and GFR

Question 3: (complications of management)

How well do newborn kidneys handle Na -

What are the clinical implications?

Key points for discussion:

Newborns have limited capacity to conserve sodium when challenged by sodium restriction and limited ability to excrete sodium in response to sodium load. In week 1, urinary sodium excretion is high and inversely proportional to the baby's maturity. Premature babies have obligatory

urinary sodium loss with consequent negative sodium balance.

Disturbances in plasma sodium include:

1. **Early-onset hyponatraemia** (plasma sodium <130 mmol/l) occurring in the first week of life. This is due to water retention and sodium depletion.
2. **Late-onset hyponatraemia**. This is usually the result of inadequate sodium intake, renal sodium wasting and free water retention.
3. **Early-onset hypernatraemia** (plasma sodium >150 mmol/l). This is usually iatrogenic in aetiology, resulting from repeated administration of hypertonic sodium bicarbonate solution to correct acidosis in severely ill neonates.
4. **Late-onset hypernatraemia** is due to the administration of sodium supplements and inadequate free water.

No exhibits

End of Item D29365
