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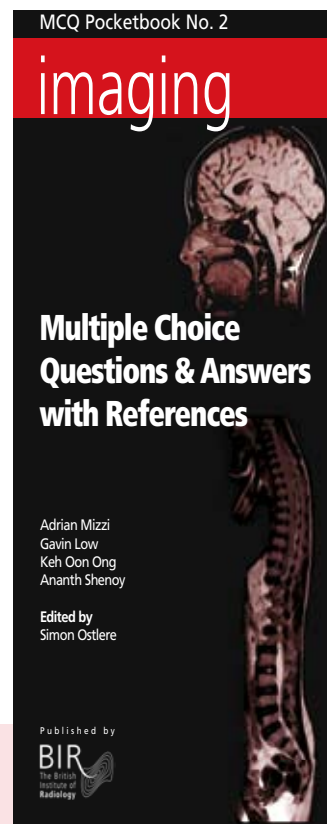
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See next page for sample questions!

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Sample Multiple Choice Questions

Enteroclysis (small bowel enema)

- Intravenous sedation is contraindicated.
- Intravenous buscopan facilitates nasointestinal intubation.
- Air may be used as a double contrast agent.
- Low-density barium should be used for double contrast small bowel enema.
- It is contraindicated in patients with small bowel obstruction.

Answers

- False.** Conscious sedation is utilized in some centres to improve patient comfort.
- False.** Metoclopramide facilitates nasointestinal intubation and allows for faster contrast infusion rates.
- True.** The distal end of the enteroclysis catheter is introduced into the distal duodenum/proximal jejunum. Contrast is ideally delivered by an infusion pump. Various combinations of contrast agents have been described. Single contrast enema can be performed using low-density barium (24–42%) for easy infusion. Double contrast enema has the advantage of showing mucosal detail and allows visualization of overlapping small bowel loops. The Herlinger technique uses a small amount (180–220 ml) of 80% w/v barium suspension followed by infusion of methylcellulose. A biphasic enteroclysis technique, developed by Maglinte, utilizes 350–500 ml of specially formulated 50% w/v barium suspension followed by 2 l of methylcellulose. Air may be used as a double contrast agent in order to show subtle intraluminal surface detail.
- False.**
- False.** Recent advances in small bowel imaging include the introduction of CT and MR enteroclysis.

Reference: Maglinte D et al. Technical refinements in enteroclysis. *Radiol Clin N Am* 2003;41:213–229.

Antegrade ureteric stent placement.

- Pyonephrosis is a contraindication.
- Should always be performed as a two-stage procedure, e.g. 24–48 h after insertion of a nephrostomy.
- A 24 F nephrostomy catheter is left at the end of the procedure to drain the plevicalyceal system.
- Is usually the treatment of choice for patients with hydronephrosis secondary to a ureteric calculus.
- Metallic stents are usually preferred.

Answers

- True.** Nephrostomy is the treatment of choice in pyonephrosis. A ureteric stent may be inserted once the infection has abated.
- False.** More interventional radiologists are now favouring a one step procedure, unless there is urinary infection or excessive bleeding.
- False.** 24 F nephrostomy is a large catheter that is used to drain the kidney after percutaneous nephrolithotomy. If there is good ureteric drainage and no evidence of haemorrhage at the end of the procedure, there is no absolute need to leave a nephrostomy catheter. Otherwise, a small e.g. 8 F nephrostomy catheter is placed for 24–48 h, after

which an antegrade pyelogram is performed through the nephrostomy port to confirm satisfactory stent drainage. The nephrostomy is then removed.

- False.** These patients are best treated by retrograde ureteric stenting. Antegrade stenting is only performed if retrograde ureteric stenting fails or is contraindicated.
- False.** Plastic stents are the gold standard at the moment. Metallic ureteric stents are available but have limited patency and tend to induce florid urothelial hyperplasia. A recently introduced nickel-titanium alloy shape-memory stent appears more promising in this respect.

Reference: Patel U, Abubacker MZ. Erector stent placement without postprocedural nephrostomy tube: experience in 41 patients. *Radiology* 2004;230:435–442

The following intracranial abnormalities typically have a high signal on T_1 weighted MRI:

- Melanoma metastases.
- Methaemoglobin.
- Dermoid.
- Epidermoid.
- Vein of Galen Aneurysm.

Answers

- True.** The most frequently observed signal changes on MRI are high signal on T_1 and low signal on T_2 weighted images. This results from the paramagnetic properties of melanin. However, a variety of atypical appearances have been described, e.g. amelanotic melanoma returns low signal on T_1 and high signal on T_2 weighted images.
- True.** See answer for question 1.
- True.** Dermoids have high signal on T_1 weighted MRI due to their lipid content, with heterogeneous signal on T_2 weighted images due to the mixed composition of the tumour.
- False.** The MRI signal characteristics of epidermoids are usually similar to CSF, i.e. low signal on T_1 and high signal on T_2 weighted images. “White” epidermoids are uncommon lesions that contain sufficient lipid to return high signal on T_1 weighted sequences.
- False.** Flowing blood can have a variety of appearances on spin-echo MRI, depending on its velocity, flow profile and direction relative to the imaging plane. Flow enhancement occurs in vessels containing slow flowing blood, as a result of previously unexcited blood entering the slice being imaged, during the 90° pulse. This blood is more affected by the pulse than stationary tissue, which is yet to recover from the previous excitation. Flow void occurs in vessels containing fast flowing blood, where some of the blood excited by the initial 90° pulse has already left the slice being imaged before the 180° refocusing pulse, thereby producing no echo. Turbulent flow produces a rapid loss of phase coherence, and usually appears dark.

Reference: Warakaulle DR, Anslow P. Differential diagnosis of intracranial lesions with high signal on T_1 or low signal on T_2 weighted MRI. *Clin Radiol* 2003;58:922–33.