

Answers to the Medical Quiz

CASE 1

1. Left radiopaque hemithorax with ipsilateral mediastinal shift (negative mass effect).
2. Mucus plug in left main bronchus.

A radiopaque hemithorax is a term used for near if not complete absence of the transradiancy of a hemithorax. Is a radiographic abnormality of various aetiologies, grouped in reference to "mass" effect: positive, indicating shift of the mediastinum away from the abnormality; negative, indicating shift of the mediastinum towards the abnormal radiopaque hemithorax; and "zero" mass effect, indicating neither positive nor negative mass effect.

The major aetiology of a positive mass effect is a very large pleural effusion of whatever cause, and diaphragmatic hernia. The latter situation is seen in newborns with respiratory distress and before swallowing of air. A negative mass effect would suggest total lung collapse (tumour, foreign body, mucus plug), pneumonectomy or chronic lung infection. The underlying cause in this situation may be obvious (a radiopaque foreign body, rat-tail appearance to the bronchus in malignancy), suture material, and/or evidence of rib resection/regeneration. The presence of an air bronchogram should always suggest a parenchymal lesion such as air space consolidation, which is usually associated with minimal of any mass effect, either negative or positive: due to atelectasis or pleural effusion, respectively. The association with a zero mass effect should raise the suspicion of malignant collapse / consolidation; alternatively consider total lung collapse, and fixation of the mediastinum by malignant infiltration.

CASE 2

A small radiopaque stone in the posterior urethra. The plain radiograph of the abdomen should always include the pubic bone and part of the perineum especially in the male patient and particularly when the complaints relate to the lower urinary tract. Once this part of the patient's anatomy had been included, it must be fully examined for pathology such as calculi.

CASE 3

1. Multiple vesical stones in a patient with large prostate (note the relative high position of the stones in the pelvis).
2. a) Mechanical lower urinary tract obstruction
 - ex. — large prostate
 - urethral stricture (male)
 - cystocele in the female
 - posterior urethral valve in the male paediatric age group
- b) Neurogenic bladder
 - ex. — paraplegia secondary to spinal trauma or transverse myelitis
 - meningomyelocele
 - sacrococcygeal tumour
- c) vesico vaginal fistula (VVF) secondary for instance to birth trauma or malignancy of the female reproductive system.