A very rare complication of vesico-uterine fistula following lower segment caesarean section

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Introduction: Vesico-uterine fistula (VUF) is a recognised but rare complication following lower segment caesarean section with an incidence of less than 4% of all urogenital fistulae. Patients commonly present with urinary incontinence, cyclical haematuria, amenorrhoea, infertility and spontaneous first trimester abortions. Presentation can be immediate or delayed.

Case description: A 34-year-old lady presents with an eight-day history of continuous urinary leakage, following LSCS. She had the operation due to failure to progress during labour. She was discharged home after 2 days only to re-present. Speculum examination revealed drainage of clear fluid from the vagina. A vesico-vaginal fistula (VVF) was suspected and she underwent intravenous urogram (IVU) and CT abdomen and pelvis. Radiological findings revealed a suspected fistula but its precise anatomy was uncertain, hence a diagnosis was not made. She underwent examination under anaesthesia, cystoscopy, colposcopy and hysteroscopy, which revealed a small defect in the dome of the bladder and further advancement of the scope led to an entry into a second confined space – the uterus. Clearly there was communication between these spaces. A hysteroscopy revealed missing anterior aspect of the cervix, and proximal to this was the fistula. A urinary catheter was inserted and elective laparotomy planned in six weeks to allow for uterine involution. On the day of her operation, the patient reported cessation of urinary leakage and felt there was no significant vaginal discharge. The assumption was that her fistula had closed spontaneously. A formal cystogram was performed showing the presence of contrast within two cavities. Methylene blue dye was instilled into the bladder via the urinary catheter. Blue staining on the cervix end of the tampon confirmed a patent fistula tract. She underwent laparotomy where the bladder was bivalved to separate it from the anterior aspect of the uterus and cervix, the fistulous tract was excised, and the bladder repaired. An omental 'tongue' was place as interposition between the uterus and the bladder. Her post-operative recovery was uneventful and she was discharged home. On review 6 weeks post-operatively, she had made a full recovery with no further urinary leakage.

Results and Conclusions: VUF is an unusual complication of LCSC, and presentation is very variable, from frank urinary leakage to vaginal discharge. What makes it unique is a competent cervix, which closes and allows urine to be trapped in to the uterus. This creates the variability of the intensity of discharge - if at all and other non-specific presentation as previously alluded to. A high index of suspicion is therefore required to make this diagnosis, as cystograms may not necessarily fill the uterus, especially if already involuted. For the same reasons, VUF may present early following caesarean section or as a delayed presentation several years later. Patients may not necessarily present with urinary leakage.

Take home message: A double ring overlap should be looked for, in cystograms, and lateral views must be obtained. A methylene blue test can be helpful if carefully conducted. A pelvic 'scopy' – cystoscopy, hysteroscopy and colposcopy are part of required armamentarium in making a diagnosis. CT and MRI scans could also be employed. Once a diagnosis is made, repairs of VUF is similar to VVF.

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An unusual case of spontaneous pneumomediastinum: Case report

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Introduction: Spontaneous pneumomediastinum (SPM) is rare, with an incidence of 1/25,000. It is defined as extra luminal free air within the mediastinum, not associated with trauma. A classic clinical triad consists of pleuritic chest pain, dyspnoea and subcutaneous emphysema. SPM is self-limiting and symptoms can be managed conservatively. However despite a good prognosis, secondary causes should be excluded.

Case description: Miss AG, 27 year old with a known history of Ulcerative Colitis being treated with azathioprine and adalimumab, presented to the ED with a two week history of progressively worsening shortness of breath and left sided pleuritic chest pain. She reported a 3 day h/o ongoing fever, rigors for which she was being treated with Amoxicillin 500mg tds. The patient had no previous history of respiratory conditions and was a non-smoker. The patient saturated at 96% on 2L of Oxygen with a respiratory rate of 19. She was apyrexial, normotensive and acyanotic. Clinical findings on auscultation revealed left sided bronchial breathing, an erect postero-anterior chest x-ray revealed dense opacification throughout the left mid and lower zone. As she was increasingly symptomatic, she went onto have a CTPA, which showed a pneumomediastinum. A discussion with the thoracic surgeons followed and an urgent CT thorax and abdomen with oral gastrografin was carried out to exclude oesophageal perforation. This scan did not reveal any extravasation of contrast around the oesophagus to suggest a perforation or a leak. The patient improved clinically, discharged in 6 days, she was kept nil by mouth for 48 hours once the CT had confirmed that there was no perforation.

Results and Conclusions: SPM usually has a benign and favourable clinical course and is usually self-limiting. It is more commonly seen in young men. The pathophysiological process behind SPM was initially described by Macklin in 1944, who described a rupture of the terminal alveoli, secondary to pressure differences across the alveolar membrane causing air to leak into the lung interstitium and consequently into them mediastinum. In a retrospective study by Park et al., 44% of the patients had a precipitating factor, with the most common being cough.

Literature suggests that the most common symptoms reported in cases are usually chest pain, which is usually pleuritic in nature and dyspnoea Subcutaneous emphysema is also reported as common clinical sign and has a frequency ranging from 40% to 100% in cases. Moreover, the characteristic sign of systolic crackles on auscultation known as Hamman's sign can also be heard in 30% of cases. Diagnosis in this case was made based on the CTPA though it is more commonly based on chest x-ray findings. Postero-anterior view establishes the diagnosis in about two-thirds of patients with the three commonest findings: air streaks in the superior mediastinum, prominent left sided silhouette of the heart and subcutaneous emphysema of the neck and shoulder. For this reason, a chest CT scan is a more conclusive and sensitive scan, which is considered the gold standard investigation for SPM. More importantly, a CT scan with an oral contrast, as in this case, will allow us to distinguish between secondary causes of a SPM such as an oesophageal leak or rupture. The prognosis is good and treatment is mainly conservative for those diagnosed. The average clinical course, reported in the retrospective study by Takada et al. was 1.8 days after diagnosis, with an average of 7.8 day of