evacuation of intraperitoneal urine and repair of the bladder defect. Extraperitoneal perforation may be managed conservatively with bladder drainage via an indwelling or suprapubic catheter. BJHM

Aber A, Hyder S, Arumuham V (2011) An unusual case of spontaneous bladder perforation with associated autodialysis of the ensuing urinary ascites. *Case Rep Med* 145084 (doi: 10.1155/2011/145084)

Benchekroun A, Lachkar A, Soumana A, Farih MH, Belahnech Z, Marzouk M, Faik M (1997) Spontaneous rupture of bladder diverticulum. Apropos of a case. *Ann Urol (Paris)* **32(6-7):** 367–9

Itoh N, Kounami T (1994) Spontaneous rupture of a bladder diverticulum: ultrasonographic diagnosis. *J Urol* **152**(4): 1206–7

Jorion JL, Michel M (1999) Spontaneous rupture of bladder diverticula in a girl with Ehlers-Danlos syndrome. *J Pediatr Surg* **34**(3): 483–4 (doi: 10.1016/S0022-3468(99)90506-7)

Keeler L, Sant G (1990) Spontaneous rupture of a bladder diverticulum. *J Urol* **143**(2): 349–51

Leahy O, Grummet J (2013) Splash! The spontaneous rupture of a bladder diverticulum: a rare cause of an acute abdomen. *ANZ J Surg* **83**(10): 792–3 (doi: 10.1111/ans.12240)

Moreno Sierra J, Galante-Romo I, Ortiz-Oshiro E, Castillon-Vela IT, Fernandez-Perez C, Silmi-Moyano A (2010) Bladder diverticulum robotic surgery: systematic review of case reports. *Urol Int* **85**(4): 381–5 (doi: 10.1159/000319421)

Nishimura T, Suzuki K, Iijima M et al (2000) Spontaneous rupture of bladder diverticulum after postoperative radiotherapy for carcinoma of the uterine cervix: a case report. *Radiat Med* **18**(4): 261–5

Ramcharan K, Poon-King T, Indar R (1987) Spontaneous intraperitoneal rupture of a neurogenic bladder; the importance of ascitic fluid urea and electrolytes in diagnosis. *Postgrad Med J* **63**(745): 999–1000

Shakeri S, Rasekhi A, Yazdani M, Kheradpezhouh E (2007) The incidence of diverticula of urinary bladder in patients with benign prostatic hypertrophy and the comparison between cystoscopy and cystography in detecting bladder diverticula. *Iran Red Crescent Med J* **9**(1): 36–41

LEARNING POINTS

- A thick-walled bladder with diverticula can indicate detrusor overactivity secondary to bladder outlet obstruction. This can lead to high voiding pressures within the bladder resulting in the formation of diverticula that may be prone to perforation.
- Diagnosis of spontaneous bladder perforation is often delayed and requires a high index of suspicion.
- A history of lower urinary tract symptoms, combined with acute onset abdominal pain, oliguria, raised serum creatinine levels and ascites, should prompt one to consider spontaneous bladder perforation.
- Cystogram is the gold standard for diagnosis of bladder perforation but availability and delayed presentation may limit its utility.
- Intraperitoneal bladder rupture requires surgical intervention while extraperitoneal bladder rupture may be managed conservatively with bladder drainage via an indwelling or suprapubic catheter and rarely requires surgical repair.

Calcified pericardial haematoma causing heart failure

A 67-year-old woman was admitted with shortness of breath. Physical examination revealed a third heart sound, engorged neck veins, hepatomegaly and pedal oedema.

Chest X-ray (*Figure 1*) showed dense pericardial calcification. Echocardiogram showed an ovoid mass impinging on the dilated right ventricle with pulmonary hypertension. There was no pericardial effusion or any respiratory variation in the mitral valve inflow velocities.

Computed tomogram of the chest (*Figure 2*) showed a 5 x 3 cm ovoid area of calcification with central soft tissue density pressing upon the right ventricle, most likely secondary to pericardial haematoma in the past.

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Traumatic bleeding into the pericardium can initiate a process of inflammation, calcification and scarring that may eventually produce pericardial constriction (Manhas et al, 2008).

Post-traumatic formation of a large, organized, calcified haematoma is rare. In a literature review (Brown and Ivey, 1996) the time from injury to presentation with symptoms ranged from 3 to 20 years. BJHM

Figure 1. Chest X-ray showing dense pericardial calcification.

Brown DL, Ivey TD (1996) Giant organized pericardial hematoma producing constrictive pericarditis: a case report and review of the literature. *J Trauma* **41**(3): 558–60

Manhas AH, Martin RT, Reul GJ, Stainback RF (2008) Heart failure due to a post-traumatic calcified pericardial hematoma. *Tex Heart Inst J* **35**(3): 345–8

Figure 2. Computed tomogram of the chest showing an ovoid calcified mass impinging on the right ventricle.