

## **Case Studies for Bart's Workshop**

### **Case Study #2 – Intraoperative Haemorrhage and Hypovolemic Shock**

A 52-year-old woman with history of a suspicious lesion in the upper pole of her left kidney was admitted for surgical removal. She had been in good health until about two months prior to admission when she was seen in A&E for an episode of acute abdominal pain, anorexia, nausea and vomiting, which resolved with iv fluids. At that time she reported no sweating, palpitations, headache, weight gain, or proximal muscle weakness. Her diagnosis for her symptoms that evening was felt to be an adverse reaction to non-steroidal medications she had been taking for lower back pain.

Though a CT scan obtained at that visit revealed no acute findings the radiologist did identify an incidental finding, an upper pole mass in her left kidney. The patient's routine blood work was reported as normal, and she was referred for further evaluation.

Two weeks later a left renal angiogram was performed that raised the suspicion of an adrenal carcinoma with prominent vascular component and the patient was scheduled for an adrenalectomy and possible nephrectomy. Post-angiogram the patient developed a large ecchymosis with a prominent mass in her left groin, which was considered to be a normal, but unfortunate, complication of the renal angiogram. This was dismissed by the radiologist as inconsequential.

At surgery the mass appeared to be highly vascular and removal required considerable dissection. Despite what appeared to be isolation of arterial and venous supplies the patient continued to ooze blood and then developed brisk intraoperative bleeding as the mass disintegrated during dissection, requiring vigorous fluid replacement. Hypotension ensued and fluid replacement was supplemented with packed cells and fresh frozen plasma. The period of hypotension (BP 75/30, P 120) lasted about 30 minutes. Eventually an aberrant arterial source was identified and ligated, resulting in cessation of the brisk bleeding. However, oozing at the surgical site continued.

Post operatively the patient awakened normally and was noted to have prominent bruising around her neck and buttocks and petechiae on her arms where her IVs had been placed. Laboratory studies revealed very significant thrombocytopenia ( $25 \times 10^9/\text{Lit}$ ) though clotting studies were normal otherwise. The patient did not develop signs or findings coincident with renal insufficiency despite the period of hypotension.

A further review of the patient's medical records by a medical student revealed that the patient had had thrombocytopenia at both her A&E visit ( $60 \times 10^9/\text{Lit}$ )

<sup>9</sup>/Lit) and on the day prior to admission ( $45 \times 10^9$ /Lit), though this had not been noted by either the surgical registrar, the anaesthetist, nor the surgeon. Subsequently, a haematology consultation confirmed a diagnosis of chronic Immune Thrombocytopenic Purpura.

Fortunately, the patient made an uneventful surgical recovery. Pathological examination of the mass revealed a benign adenoma, albeit one with a prominent vascular component and no evidence of malignancy. Studies for Lupus Erythematosus were normal and she was felt to have isolated ITP. Her ITP persisted, and six months later she underwent an uneventful splenectomy. Her platelet count rose to  $105 \times 10^9$ /Lit post operatively and has remained above that level.

An investigation concluded that the surgical registrar was at fault for missing the abnormal preoperative lab result. She was counselled by her department head to be more careful and was put on probation for a period of three months until she “sharpened up”. No system or other personnel issues were identified.

Anyone worried here?

What else would you like to know about this case?

Who should be interviewed?

Where does responsibility and accountability reside

Was this a case of overzealous investigation in the first instance?

How common are “incidental” findings on CT scans, and adrenal adenomas in particular?