

Case Studies for Bart's Workshop

Case Study #1 – Post Operative Surgical Site Infection Mortality

A 55-year-old very obese woman, with longstanding history of abdominal complaints attributable to irritable bowel syndrome, presented to her GP with a 3-4 week history of intermittent right upper quadrant colicky pain, bloating and nausea. She has been found to have numerous gallstones as part of her diagnostic evaluation, was referred for surgical evaluation and after imaging studies, a cholecystectomy had been recommended. The patient was a frequent visitor to her GP practice and had been considered to have variety of hypochondriacal complaints over the years. This information was shared with her surgeon.

The surgeon was a well-respected clinician, though he did have a reputation for rudeness and expressing impatience toward both subordinate staff and patients from time to time.

On admission, the patient complained of bloating, nausea and variable abdominal pain. Her vital signs were normal in all respects (T- 36.8, P - 78, BP - 130/78, R - 16) and her exam revealed moderate right upper quadrant tenderness without rebound.

Though a laparoscopic cholecystectomy had been planned, exposure problems related to her obesity resulted in conversion of the procedure to an open cholecystectomy. The surgeon noted with some verbal dismay (a criticism of the scrub nurse) that a favoured suture and clamp were not available on the surgical tray and he used other surgical tools instead. There was a moment during surgery when a small bowel perforation was suspected but not confirmed. The surgical site was clean and the patient returned to the ward. She was expected to remain in hospital for three-four days.

Post-operatively, the patient's progress was felt to be generally unremarkable, though her appetite was slow to return and even after three days she continued to complain of right upper quadrant tenderness that the surgeon attributed to incisional pain. On the evening before discharge, her nurse noted some blood streaks in the patient's faeces, had recorded this in the nursing notes though she had not informed the covering house officer.

On the morning of the fourth post-operative day the patient was seen by her surgeon at 0700 and despite some persistent anorexia and tenderness was considered fit for discharge. The surgeon commented "I'm sure you will do much better at home when you have your husband to prepare your meals instead of the hospital kitchen." She was discharged with instructions to return to the outpatient surgery in one week. She was not given written post-operative discharge instructions.

At home, the patient did not improve and on the third day refused to eat as she felt

quite poorly. Her husband called the surgical clinic to seek advice and was advised to bring her in the following morning. That afternoon at home the patient suddenly became unresponsive and was urgently transported to hospital by ambulance where she died 36-hours later from abdominal sepsis and peritonitis. At autopsy, a perforated necrotic bowel segment was identified.

An investigation into this death revealed that post-operative infection, a known complication of open cholecystectomy, likely due to intraoperative bowel preparation, was the proximate cause of the patient's demise. Furthermore, the lack of the surgeon's preferred suture materials and clamp were contributing factors. The surgeon had acted in good faith.

Notably, the nursing notes and final day's vital signs prior to discharge were not reviewed as part of this investigation. Subsequently, these revealed documentation of blood streaked faeces in the nursing notes, the fact that the covering house officer had been notified of this and, most importantly, that the patient's vital signs had been slowly deteriorating over a 16-hour period, with all of these details highlighted in yellow marker. Just prior to discharge, the patient's vital signs were T - 38.4, P - 96, BP - 98/60 and R - 24.

Hhhmmmm...

Using the information at hand discuss your approach to investigation with particular focus on potential human factors liabilities. In particular, what are the questions that need to be asked to help you understand the contributing factors resulting causality.