

Subcutaneous emphysema of the neck after colectomy

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Dear Editor:

Subcutaneous emphysema is a symptom of often serious underlying causes, including pneumothorax, trachea, and esophagus injuries. An abdominal cause of subcutaneous emphysema is rare. Here, we describe a patient with Crohn's colitis who developed subcutaneous emphysema as a result of an iatrogenic small bowel perforation.

A 49-year-old woman underwent a subtotal colectomy for active Crohn's disease. Her medical history included creation of a colostomy because of perianal manifestation of Crohn's disease. This previous operation was complicated by a blow out of the rectum necessitating several relaparotomies.

Since 2 months, the patient had experienced an exacerbation of Crohn's colitis. She presented with weight loss, abdominal pain, and bloody fecal discharge from her colostomy. A colonoscopy showed active inflammation with a pinpoint stenosis of the colon. It was decided to perform a

subtotal colectomy. At the time of operation, the patient used 20 mg of prednisone daily.

Although technically difficult due to extensive adhesions resulting from the previous operations, the procedure was uneventful. The colon was excised, the colostomy removed, and an ileostomy created. The first day after surgery, the condition of the patient was good. She did experience some nausea, but no abdominal discomfort. The ileostomy was vital but not productive. Thirty-six hours after the operation, there was one febrile episode. An X-ray of the thorax showed no abnormalities, especially no free abdominal air. Antibiotic therapy was started (cefuroxime and metronidazole), and the fever subsided.

Two days after surgery, the patient complained of increasing shortness of breath. On physical examination, she had a high respiratory rate, a high heart rate, normotensive, and afebrile. The peripheral saturation was 88%. She spoke with a high-pitched hoarse voice, and she had developed extensive subcutaneous emphysema of the neck. Breathing sounds were present bilaterally, and there was no abdominal discomfort. A chest X-ray showed a bilateral pneumothorax. The patient was transferred to the intensive care unit where chest drainage was started. Further imaging using a computed tomography scan of the thorax and abdomen showed a bilateral pneumothorax, pneumomediastinum, and free abdominal air. At relaparotomy, an iatrogenic perforation of the small bowel was found and repaired. The patient's postoperative course was long and complicated, but eventually she made a good recovery.

Subcutaneous emphysema, pneumothorax, and pneumomediastinum are rare events after abdominal surgery and are also only sporadically seen after laparoscopic surgery. Nevertheless, this case shows that the borders between

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mediastinum, pleural, and abdominal cavity are not always air tight. There are several ways to explain these findings. Air is thought to move relatively easily along the facial planes in the retroperitoneum. In our patient, as a result of the colectomy, a connection may have existed between the peritoneal cavity and the retroperitoneum. Otherwise, the abdominal air may have moved directly between peritoneal and pleural cavity through so-called ‘diaphragmatic fenestrations’.

Unexplained complications in the course after major abdominal surgery should be attributed to the operation until proven otherwise, especially when the use of prednisone may mitigate abdominal symptoms.

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