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CASE REPORT

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Pneumoscrotum after colorectal surgery: A case report

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Key Clinical Message

Pneumoscrotum is a very rare complication. Currently, very little evidence-based medicine exists on treatment guidelines. We think a prophylactic antibiotic course and a 48 hours in hospital observation are justified in these rare cases.

KEYWORDS

complications in colorectal surgery, infection, pneumoscrotum, proctoscopy

1 | PURPOSE

Pneumoscrotum is a very rare complication after colorectal surgery. The high risk of infection is in some cases fatal. The benign pneumoscrotum is treated conservatively with an immediate antibiotic therapy and needs no further treatment after the air is resorbed. We present the case of a 61-year-old man, who developed a massive pneumoscrotum (PS) after a colorectal intervention. Due to a rectal adenocarcinoma, we performed a rigid rectoscopy, low anterior rectal resection and coloanal anastomosis and protective ileostomy. Early detection and treatment of Pneumoscrotum is important to avoid further complications such as bacterial infections. Pneumoscrotum is a very rare complication. Currently, very little evidence-based medicine exists on treatment guidelines. We think a prophylactic antibiotic course and a 48 hours in hospital observation are justified in these rare cases.

A pneumoscrotum is a collection of air within the scrotum.[1] Some case reports show various etiologies. Therefore, the therapy and the outcome are very variable.[1-3] It is a very rare complication after colorectal surgery.[4,5] Currently, most likely due to its rare frequency, there are no standards in treatment, beside an immediate antibiotic treatment and close monitoring of the patient.[5] The diagnosis is made based on the clinical presentation; however, a radiological control (CT scan recommended) is necessary to estimate the extension of air infiltration.[6]

Generally, urgent surgery is not indicated with exception, for example, Fournier's gangrene.[7] The benign pneumoscrotum is usually painless with spontaneous clinical improvement.

2 | CASE PRESENTATION

Our patient was a 61-year-old man diagnosed with rectal adenocarcinoma in 12/2015. He started his neoadjuvant radio/chemotherapy with capecitabine in 01/2016 followed by deep anterior rectum resection with a transanal-coloanal anastomosis (hand-sewn technique) combined with a protective ileostomy in 04/2016. From 06 to 09/2017, he received additional adjuvant chemotherapy with Capecitabine. Postoperatively he suffered from an anastomotic insufficiency with a regressive pelvic collection and a circular stenosis about 5 cm from the ano-cutaneal line. The patient wished the reversal of the ileostomy even though the sphincter tonus was still extenuated, and the patient was not completely continent. Stoma function was good, and additionally he had daily mucous perianal secretion.

To prepare for the colostomy reversal, we dilated the stenosis (Dilatation nach Hager) in 09/2017. The dilatation was monitored with digital rectal examination and miniproctoscopy with a speculum. We finished the operation with a rigid proctoscopy to control the situs after the dilatation. We dilated the mucosa by insufflating air into the rectum. There was no active bleeding or mucosal lesions found. The known pelvic cavity was without any irritation or inflammation.

After the operation, we removed the sterile blankets and saw the inflated scrotum (see Figure 1).

We involved our colleges from the urology department and performed a CT scan looking for any major lesions that would indicate the necessity of an additional intervention.

The CT scan showed retroperitoneal gas with extension into the scrotum, perirenal, perihepatic, and subdiaphysal regions (Figure 2).

The scrotum was clearly distended (15-13 cm). There was no intra-abdominal gas. The scrotal air collection was measured at 5.3 × 4.5 × 4.2 cm (see Figure 3).

Beside the enlarged scrotum, the patient had no other symptoms or pain.

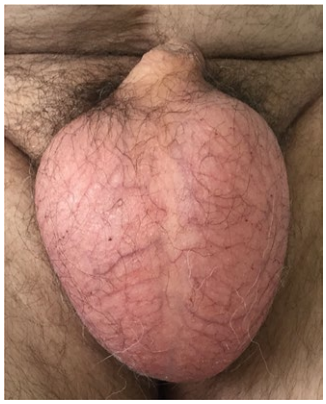

FIGURE 1 Postoperative pneumoscrotum

After the diagnoses was made, the patient was closely (every 2 hours) monitored for the first 24 hours postop, intravenous antibiotics were started (Piperacillinum (Tazobac) 4,5 g every 8 hours i.v.) for 5 days and then switched to amoxicillin/clavulanic acid (Augmentin) 625 mg p.o. every 8 hours for another 5 days. Discharge from the hospital occurred on the fifth postop day.

The patient had no pain in the genital area or problems with urinating. His laboratory test showed only slightly elevated inflammatory parameters (CRP 47.3 mg/L 4 days postop).

We saw the patient in our clinic 1 month after discharge for a regular check-up. He reported a very slow reduction in the size of his scrotum. During the whole time, he never had pain or any signs of infection.

3 | DISCUSSION

Our patient underwent a colorectal intervention with postoperative complications and chronic stenosis of his anastomosis. We believe that under these circumstances, the probability of getting the reported complication was higher due to the manipulation in an already fragile area.

There was no skin emphysema and no crepitation palpable. The radiological diagnosis showed air in the retroperitoneal space and scrotum. Therefore, we think the cause of the complication was due to an iatrogenic fistula, which occurs

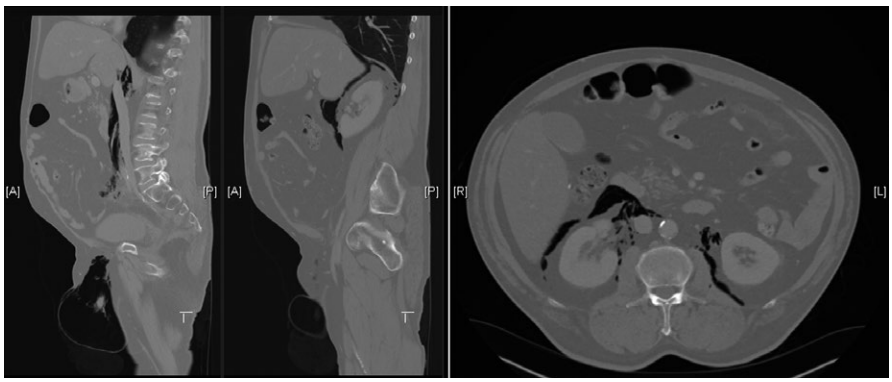

FIGURE 2 Postoperative CT scan—retroperitoneal

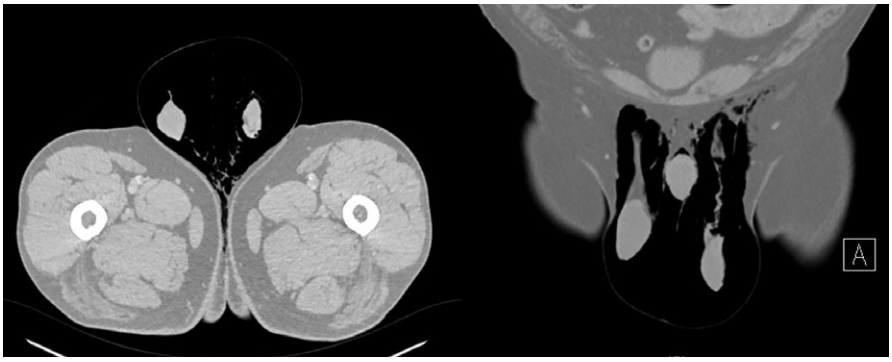

FIGURE 3 Postoperative CT scan—scrotum

while dilating the rectal stenosis. During the diagnostically indicated proctoscopy after the intervention, we probably infiltrated air through the fistula into the retroperitoneum and scrotum.

An intraoperative control (visual/palpable) of the scrotum is probably not necessary to perform by default, as the complication is that seldom and mostly benign.

4 | CONCLUSION

Pneumoscrotum is a very rare complication in colorectal surgery. If it occurs, prevention of a further complication, such as bacterial infection, is necessary. Therefore, it is important to start an early treatment with i.v. antibiotics (in our case Tazobac 4, 5 g 8 hourly) and have a close monitoring (in our case every 2 hours during the first 24 hours). The patient should be informed about the situation and the possible further complication. A clinical follow-up appointment 2-4 weeks after discharged from the hospital is recommended.

ACKNOWLEDGMENT

Not applicable.

CONFLICT OF INTEREST

None declared.

AUTHOR CONTRIBUTION

JW :wrote the manuscript and provided data, surgeon MW and BS: urological consultation after the operation PK: surgeon, follow up of the patient, supporting an supervising the manuscript.

CONSENT FOR PUBLICATION

The patient consented for the publication of this case report.

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