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Case report

Laparoscopic hemicolectomy for a patient with situs inversus totalis and colorectal cancer

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ABSTRACT

Situs inversus totalis is a congenital anatomic anomaly characterized by a complete inversion of thoracic and abdominal organs. We present a case of a 67 year-old patient diagnosed with situs inversus totals in his childhood who was referred for a two-month history of hematoquezia. Ascending colon cancer where found and he underwent a laparoscopic hemicolectomy with radical lymphadenectomy. An exhaustive preoperative study and a detailed planning of laparoscopic surgery including positions of operator and assistants and trocar sites have been performed to be aware of anatomic challenges. The operating time was 120 min and blood loss was minimal. Histologic examination showed a well-differentiated adenocarcinoma with serosal invasion and without lymph nodes metastasis (pT3N0). The patient was discharged on postoperative 6th day without complications. Laparoscopic surgery for colon cancer in patients with situs inversus totalis could be more difficult nevertheless a safe and feasible procedure should be performed successfully.

Colectomia laparóscopica para um paciente com situs inversus totalis e câncer colorretal

Palavras-chave:
Câncer Colorretal
Situs inversus totalis
Cirurgia laparoscópica
Malformação congênita

RESUMO

Situs inversus totalis é uma anomalia anatómica consistindo em um investimento de órgãos abdominais. Nesse estudo, descrevemos um paciente, homem 67 anos, que foi diagnosticado com situs inversus totalis na infância. Apresentava sintomas de sangramento retal e foi diagnosticado com câncer de cólon direito e tratado cirurgicamente com receção laparoscópica. Para a realização da colectomia laparoscopica precisamos de um estudo pré-operatória

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completa e um plano detalhado de cirurgia com localização do trocateres e cirurgiões. A cirurgia durou 120 minutos e perde de sangue foi mínima. O resultado do exame patológico relatou adenocarcinoma (T3N0). Nosso paciente foi admitido por 7 dias e não apresentaram complicações. Para os pacientes com situs inversus totalis e câncer colorretal a receção laparoscópica pode ser mais difícil mas eficaz e segura.

Introduction

Situs inversus totalis (SIT) is a congenital anatomic anomaly characterized by a complete inversion of all thoracic and intra-abdominal organs that creates a mirror image of their normal locations. The incidence rate of SIT is 1 per 10,000–20,000 people and it is inherited in a simple autosomal recessive manner.[1] Surgical procedures in these patients, especially laparoscopic approaches, are more difficult because of concurrent unknown defects and different positions of the organs resulting in an uncommon view. We present a case of a patient with SIT and ascending colon cancer who underwent a laparoscopic hemicolectomy.

Case report

A 67 year-old male with hypertension and diabetes mellitus was referred by his personal physician to the colorectal surgical department for a 2-months history of hematoquezia. He and several relatives had been diagnosed with SIT from early childhood. Physical examination was unremarkable. Laboratory examination confirmed anemia (red blood cell count, $3.6 \times 10^6/mm^3$; haemoglobin, 9.2 g/dL; hematocrit 29.8%). A diagnosis of colony cancer was made after a complete colonoscopy revealed an ulcerative mass 90 cm from anal verge. Histologic exam of colonoscopy biopsy indicated adenocarcinoma. A chest X-ray showed dextrocardia and right-sided gastric air bubble (Fig. 1). Echocardiography also revealed dextrocardia without cardiac valvular pathology and cardiac malformation. Abdominal Computed tomography showed a complete transposition of abdominal viscera confirming SIT, a colonic mass located in ascending colon, which was inverted to the left side (Fig. 2) and no hepatic and peritoneal metastasis. The serum concentrations of carcinoembryonic antigen and Ca 19.9 were elevated (12.5 ng/mL, reference rate 0–4.9 ng/dL, and 30 U/mL, reference rate 0–37, respectively).

According to the findings above laparoscopic hemicolectomy was performed under general anesthesia in a lithotomy position tilted to the right and with his head down. The surgeon and the second assistant were situated at the right side of the patient and the first assistant was positioned on the left, which are opposite the positions used for a normal patient. Pneumoperitoneum was established above umbilicus using a Hasson trocar (12 mm optical trocar) for the camera inserted by open technique under direct vision. Trocars were placed in a mirror manner including a 12 mm trocar in the right iliac

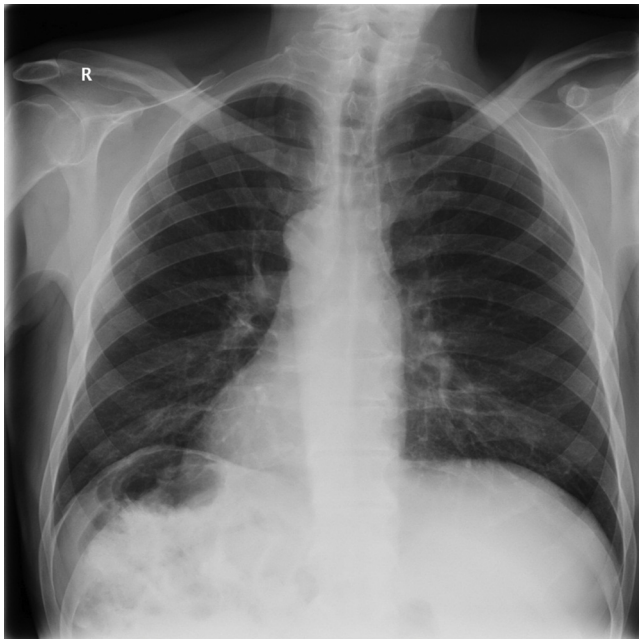

Fig. 1 – Chest X-ray showed dextrocardia and right-sided gastric air bubble.

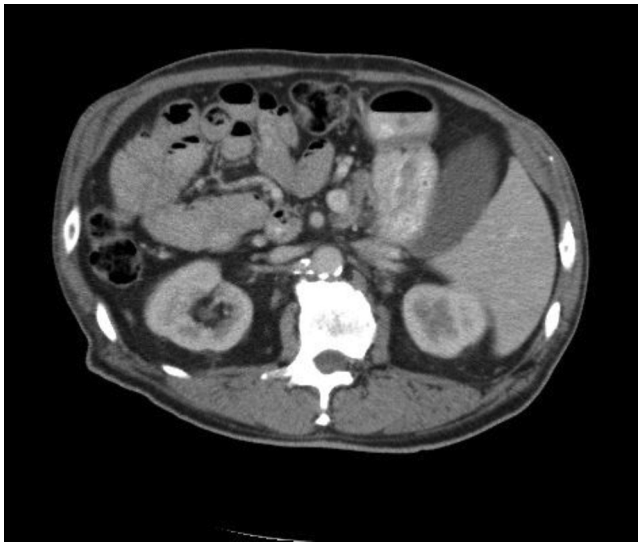

Fig. 2 – Abdominal computed tomography showed a colonic mass located in ascending colon, which was inverted on the left side.

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