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Peritoneal Carcinomatosis: A Case Report

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ABSTRACT

Peritoneal carcinomatosis represents a devastating form of cancer progression with a very poor prognosis. Its complex pathogenesis is represented by a dynamic process comprising several steps. To the best of our knowledge pathogenesis can be partly explained by 3 major molecular pathways: (1) dissemination from the primary tumor; (2) primary tumor of peritoneum; and (3) independent origins of the primary tumor and peritoneal implants. These are not mutually exclusive and combinations of different mechanisms could occur inside a single case. There are still several aspects which need explanation by future studies. A comprehensive understanding of molecular events involved in peritoneal carcinomatosis is of paramount importance and should be systematically pursued not only to identify novel strategies for the prevention of the condition, but also to obtain therapeutic advances, through the identification of surrogate markers of prognosis and development of future molecular targeted therapies.

KEYWORDS: *Pathophysiology; Peritoneal carcinomatosis; Peritoneal mesothelioma; Pseudomyxomaperitonei; Ovarian cancer; Gastric and colorectal cancer*

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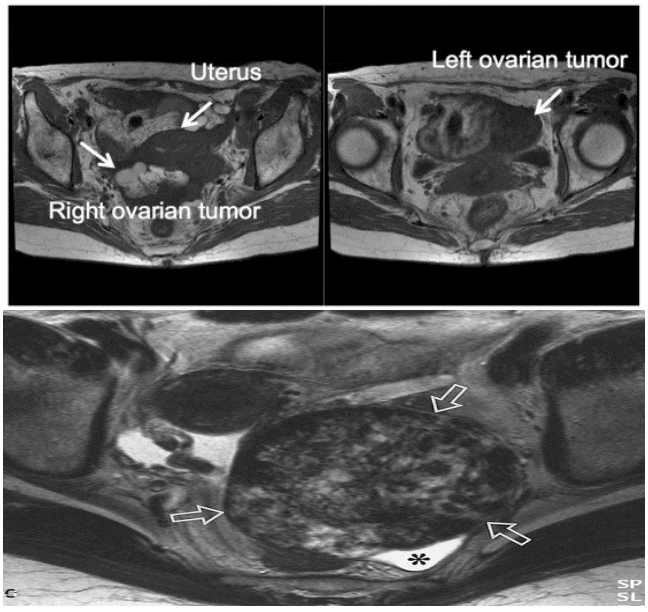
INTRODUCTION

Peritoneal carcinomatous is represents a devastating form of cancer progression with a very poor prognosis. The genesis of this clinical entity can be explained by several biological models and a better understanding of underlying tumor kinetics and cellular dissemination mechanisms will guide the clinical decision making process to maximize the therapeutic gains and provide resources for the development of biological targeted therapies.

Case description

We report the case of a 24year old with severe abdomen pain for 3 days. The patient presented to the Department of Oncology, Saveetha Medical College and Hospital, Chennai, Tamil Nadu, with symptoms of pain over abdomen and swelling. About collecting exhaustive and detailed histories, It turned out that the girl had complained of peritoneal carcinomatosis. Her ultrasound revealed 15*13cm tumor in right ovary. Upon careful examination of the patient, fissure, fragmented cancer spread over peritonium. Respiratory examination observed mild intercoastal and sub sternal recession. No murmurs were detected on cardiovascular examination. Sepsis screening was normal. Two-dimensional echocardiography was found to be normal. Ophthalmologic examination was normal.

nvestigation



Chest X-ray and echocardiogram show no structural changes within normal parameters. EEG, abdominal ultrasonography, ovary tumor with peritonium, normal bile, no epileptic activity. Genomic DNA was extracted from peripheral blood using a conventional method

Treatment

Right oophorectomy

Discussion

The peritoneal cavity is the portion of the abdominal cavity delineated by the peritoneum, parietal and visceral peritoneum, and is a closed area. An open anatomic communication with the external area is only present in women through the genital organs 26-29. Peritoneal ligaments are double layers or folds of peritoneum that support a structure within the peritoneal cavity; omentum and mesentery are precisely called peritoneal ligaments. Several abdominal ligaments develop from the ventral or dorsal mesentery26. They comprise the triangular ligament, the falciform ligament, the splenorenal ligament, the gastro splenic ligament, the phrenic-colic ligament, the gastrocolic ligament, the greater omentum, the lesser omentum (formed by the gastrohepatic ligament and hepatoduodenal ligament), and the transverse mesocolon26. The transverse colon and mesocolon are the major landmarks separating the peritoneal cavity into supra-mesocolic and infra-mesocolic area. On the anterior side of the liver, the falciform ligament divide the supra-mesolic space is into the left and right subphrenic spaces. The right subphrenic space is situated under the right diaphragm and it extends caudally lateral to the liver to the right paracolic gutter, situated between the ascending colon and the lateral abdominal wall. The left subphrenic space is divided from the left paracolic gutter by the phrenic-colic ligament and the right subphrenic recess by the falciform ligament. This area comprises the gastrohepatic fossa, the gastrosplenic recess and the splenorenal recess. The splenorenal fossa continues anteriorly and medially behind the pancreas tail. The splenorenal fossa is in connexion with the left sub phrenic space but it is divided from the lesser sac. Posteriorly, the falciform ligament is in continuity with the left and right triangular ligaments. The left triangular ligament is short and formed by the fusion of the inferior and superior reflections of the coronary ligaments. The right triangular ligament is formed by the fusion of the superior and inferior reflections of the right coronary ligament, separating the right subphrenic space from the right subhepatic space (the Morison pouch) 26. The subhepatic space, comprising the lesser sac, is situated under the liver. The right subhepatic space extends medially through the foramen of Winslow to the lesser sac. The organs surrounding the lesser sac are the spleen on the left, the stomach and duodenum anterior and right, the transverse colon anterior, and the pancreas posterior. The infra-mesocolic space is divided by the root of the small intestine mesentery into the right and the left infra-mesocolic space and into the pelvis26,27. The right infra-colic space is delimited by the caecum, the ascending colon, the mesoappendix and by the small bowel mesentery on the left. The ileum and the appendix always have a mesenterium. The caecum and the ascending colon are only partially covered by the peritoneum and their posterior face is frequently in contact with the posterior abdominal wall. However, it is possible to detect a true cecal mesentery. The left infra-colic space is situated between the small bowel mesentery and the mesentery of the descending colon and of the sigmoid colon. The sigmoid mesentery is situated obliquely in front of the ilio-sacral joint and this mesentery has a remarkable degree of mobility so that this bowel portion can be located in various sides within the peritoneal cavity. The pelvic space is the most caudal space. The pelvis comprises anteriorly the bladder, part of which is covered by peritoneum. In women, the uterus and the tubes are situated within a large transverse peritoneal fold separating the pelvis into an anterior and posterior space. The pelvic space is divided ventrally by the remnant of the urachus (median umbilical ligament), the obliterated umbilical arteries (medial umbilical ligament), and the lateral umbilical ligaments (inferior epigastric vessels) into five fossae: the right and left lateral and medial inguinal fossae and the supravesical fossa. The peritoneal fossae of the pelvis extend laterally in the paravesical fossae, and dorsally, in the man, in the rectovesical fossa and, in the woman, in the cul-de-sac (Douglas pouch) and Radiological assessment of peritoneal carcinomatosis: a primer for resident 2877 the uterovesical fossa.

Conclusion

Peritoneal carcinomatosis is a complex and dynamic process comprising several steps and to the best ofour knowledge its pathogenesis could be explained by 3 major molecular pathways. They are not mutually exclusive and combinations of different mechanisms could occur inside a single case. Therefore, patients with the poorest prognosis tend not to be included in studies of peritoneal carcinomatosis pathogenesis. Anyway, a comprehensive understanding of molecular events involved in the peritoneal carcinomatosis is of para-mount importance and should be systematically pursued not only to identify novel strategies for the prevention of the condition,

but also to obtain therapeutic advances, through the identification of the surrogate markers of prognosis and development of future molecular targeted therapies.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data

The authors declare that they have followed the protocols of their work centre on the publication of patient data.

Right to privacy and informed consent

The authors declare that no patient data appear in this article.

Conflict of interest

The authors declare that they have no conflict of interests.

References

[1] Goldie JH, Coldman AJ, Ng V, Hopkins HA, Looney WB. A mathematical and computer-based model of alternating chemotherapy and radiation therapy in experimental neoplasms. Antibiot Chemother 1988; 41: 11-20

[2] Pocard M, Debruyne P, Bras-Gonçalves R, Mareel M, Dutrillaux B, Poupon MF. Single alteration of p53 or E-cadherin genescanalter the surgical resection benet in an experimental model of colon cancer. Dis Colon Rectum 2001; 44: 1106-1112

[3] Yo n emur aY, Noj imaN, Kaj i M, Fuji m uraT, ItohH, Ninomiya I, MiyazakiI, EndoY, SasakiT. E-cadherin and urokinase-type plasminogen activator tissue status in gastric carcinoma. Cancer 1995; 76: 941-9534

[4] ElloulS, Elstrand MB, Nesl and JM, Tropé CG, Kvalheim G, Goldberg I, Reich R, Davidson B. Snail, Slug, and Smad-interacting protein1asnovel parameters of disease aggressiveness in metastatic ovarian and breast carcinoma. Cancer 2005; 103: 1631-1643

[5] Kos ti ćZ, Cuk V, Bokun R, Ignjatović D, Usaj-Knezević S, Ignjatović M. [Detection of free cancer cells in peritoneal cavityin patients surgically treated for gastric adenocarcinoma] Vojnosanit Pregl 2006; 63: 349-356

[6] Jayne DG. The molecular biology of peritoneal carcinomatosis from gastrointestinal cancer. Ann Acad Med Singapore 2003; 32: 219-225

[7] Yonemura Y, Endou Y, Nojima N,Kawamura T, Fujitia H, KajiM, AjisakaH, BandouE, SasakiT, Yamaguchi T, Harada S, Yamamoto H. Apossible role of cytokines in the formation of peritonealdissemination.IntJ Oncol 1997;11: 349-358

[8] Jayne DG, O'LearyR,GillA, HickA,GuillouPJ. A three-dimensional in-vitro model for the study of peritoneal tumour metastasis. Clin Exp Metastasis 1999; 17: 515-523