Case Report

Immature Teratoma with Gliomatosis Peritonei: A Rare Case Report

Dr. Bishal Datta¹, Dr. Manisa Mohanty¹, Dr. Ramesh Chandra Mohanty², Dr. Raghumani Mohanty³

¹Final Year Postgraduate Student, ²Professor, ³Professor & Head of the Department, Department of Pathology, Hi-Tech Medical College and Hospital, Bhubaneswar, Odisha,

Corresponding Author: Dr. Manisa Mohanty

Received: 04/02/2017 Revised: 22/02/2017 Accepted: 02/03/2017

ABSTRACT

The aim of reporting this unusual case is to identify mature glial tissue deposits in the peritoneum in a case of immature teratoma of right ovary; a diagnostic challenge for a neophyte in pathology. We report a case of a 60 year old female with complaints of vague abdominal pain for 1 year. On ultrasonographic examination, the right ovary was found to be enlarged and was followed by salpingo-oophorectomy. Intra-operatively, small papillary excrescences were noticed in the omentum so it was also sent for histopathological examination. Paraffin sections showed features of Grade II immature teratoma and immunohistochemistry using GFAP was done for the peritoneal deposits. Immature teratomas accounts for about 20% of all the ovarian tumors and occurs predominantly in children and young women averaging age of 20 years. It is rare phenomenon in postmenopausal women thus making our case a diagnostic challenge. Gliomatosis peritonei was confirmed in the omentum, a rare finding about 88 cases have been reported so far worldwide. The first case from India was reported in 1981 by Joshi et al, henceforth, only four cases have been reported.

Keywords: Gliomatosis Peritonei (GP), Glial Fibrillary Acidic Protein (GFAP), Immature Teratoma.

INTRODUCTION

Gliomatosis peritonei (GP) means implantation of neural glial tissue in the omentum. It usually occurs more commonly in a setting of an immature teratoma than mature teratoma. Ovarian teratomas can be classified into immature teratoma, mature teratoma, monodermal teratoma (Neuroectodermal tumors, Struma ovarii and Carcinoid tumor). Immature teratoma represents malignant neoplasms of the ovary and it mainly consists of all the three germ cell layers but ectodermal and mesodermal derivatives predominate. In most tumors, a mixture of mature and immature elements is found out of which the immature neuroectodermal tissues are easiest to recognize. Immature teratomas are histologically graded according to the amount of neuroepithelium present.

CASE PRESENTATION

A 60 year old female presented to the Gynaecology & Obstetrics department with severe abdominal pain for 15 days but intermittent pain, hirsutism and irregular menses was present since a year. Her other physical findings were normal except for a palpable mass per abdomen. She was advised routine blood tests and an ultrasonography of abdomen. Her blood parameters were normal and ultrasonography revealed right sided heterogeneous ovarian mass measuring
3.8cm X 2.5cm with a cystic lesion within the mass measuring 0.5cm. She was advised to undergo right sided salpingo-oophorectomy. During the operative procedure, small papillary excrescences were noticed in the omentum. The right ovary, fallopian tube and part of the omentum were resected and sent to our Department of Pathology for histopathological examination. Her post-operative recovery was uneventful.

**PATHOLOGICAL FINDINGS**

The samples were received in two containers. In container labelled as right ovary, a globular mass measuring 4cm X 3cm X 2cm. Outer surface was gray-white and on cut surface a white homogenous mass with a cyst measuring 0.5cm in diameter was present. In container labelled as omental tissue, an irregular bit of omental tissue measuring 5cm X 3cm was present.

Histopathological examination of the ovary revealed features of immature teratoma comprising of mature elements like skin, dermal appendages, bony trabeculae, cartilage, salivary glands, intestinal glands, adipose tissue, smooth muscle. Immature elements mainly consist of primitive neuroectodermal element and glial tissue. There were areas of stellate necrosis within areas of the glial tissue. The neuroectodermal element was present within 3 low power fields (Grade 2).

The omental tissue examination revealed mature (Grade 0) glial tissue deposits which were confirmed by GFAP immunohistochemical stain.

**DISCUSSION**

The word teratoma is derived *greek* word ‘teratos’ which means monster. The first description of teratoma was made in 1960 by Thurlbeck and Scully. Teratomas primarily occurs in the ovary and testis. Extragonadal sites are rare but they can arise from thyroid, retroperitoneum, mediastinum, pericardium and brain. Very rarely, teratomas are found in other solid
Immature teratoma and gliomatosis peritonei is complete surgical excision. Gliomatosis peritonei has a high recurrence rate and can undergo malignant transformation thus regular monitoring is needed by CT Scan. The prognosis of immature teratoma depends on FIGO staging.

Recent study indicates that Oct4 may serve as a promising biomarker for the diagnosis of highly malignant cases of immature teratoma as the expression of Oct4 has been exclusively detected in immature neuroepithelium of high-grade immature teratomas. [2]

CONCLUSION
Immature teratoma is a malignant neoplasm mainly affecting first decade of life. Immature teratoma associated with gliomatosis peritonei, surgical removal with combined chemotherapy is recommended. GFAP staining is recommended to demonstrate the glial nature of the peritoneal deposits. One should sample generously the omental tissue to rule out any teratomatous (immature) glial elements wherein the prognosis changes and so does the treatment protocol.

ACKNOWLEDGEMENT
We are highly privileged to write this column. The committed support from our parents Mr. B N Mohanty, Mrs Prativa Mohanty, Mr. Bipul Datta, Mrs. Lata Datta, has been a constant source for our dynamism.

REFERENCES
4. Vijayaraghavan M, Kinra G. Gliomatosis peritonei: a rare


************