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Bilateral Ovarian Small Cell Carcinoma, Pulmonary Type- A Case Report

KEYWORDS: Small cell carcinoma, Pulmonary type, Ovary

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ABSTRACT *Small cell carcinoma of the ovary is a rare, poorly understood aggressive tumour of young women. Here is a case report of 52 year old women who developed a bilateral ovarian tumour, two years after total abdominal hysterectomy where the ovaries were not removed at the time of surgery. Microscopically, the tumour resembled small cell carcinoma of the lung .The immunohistochemical features confirmed the diagnosis of pulmonary type of primary small cell carcinoma of the ovary.*

Introduction:
Small cell carcinomas of the ovary are of two types. One is hypercalcemic type which is most common[1,2,3] ,usually unilateral[4] and with variable immunohistochemical findings and the other one is pulmonary type which resembles in all regards the homonymous lung tumour which can be pure or associated with endometroid carcinoma or other patterns. Immunohistochemically there is reactivity for keratin, Neuron specific enolase (NSE), EMA and rarely for chromogranin and Leu 7[5]. Prognosis is very poor because of frequent extraovarian spread[6].

Case Report:
A 52 year old female who underwent a total abdominal hysterectomy (TAH) for uterine fibroid without removal of the ovaries 2 years back, developed fullness and pain abdomen since two months. CT scan, ultrasound was done and it showed bilateral large ovarian masses with no lesions in any other organs including lungs .Clinically, laboratory investigations did not reveal hypercalcemia. Both ovarian masses were removed and sent for histopathological examination. Grossly, both tumours were approximately same sized measuring 11.5x10x 8 cms with outer surface which was smooth, dark brown. Cut surface showed soft solid tumour with necrosis and haemorrhage (Figure 1). Microscopically, the stroma was very scanty. The capsule of the ovaries showed infiltration by tumour cells. The tumour cells were small round to oval, pleomorphic with scanty cytoplasm in places showing hyaline globules which were positive for PAS (Per iodic acid Schiff) stain (Figure 1). Nuclei were hyperchromatic without visible nucleoli (Figure 1). The nuclei were not angulated. No lymphocytic infiltrate or granulomas were seen in the stroma. With the differential diagnosis of small cell carcinoma and lymphoma, immunohistochemistry for cytokeratin and neuron specific enolase and CD 20 was done. The results showed diffuse positivity for cytokeratin (Figure 2) and Neuron specific enolase (Figure 2), whereas CD 20 for B cell lymphomas was negative (Figure 3). The features of histopathology and immunohistochemistry confirmed the diagnosis of small cell carcinoma of ovaries. Hence the diagnosis was given as bilateral ovarian tumour with features of small cell carcinoma-pulmonary type.

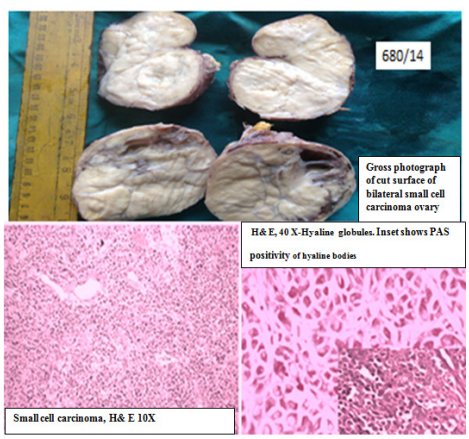

Figure 1: Gross & Microscopy of small cell carcinoma ovary

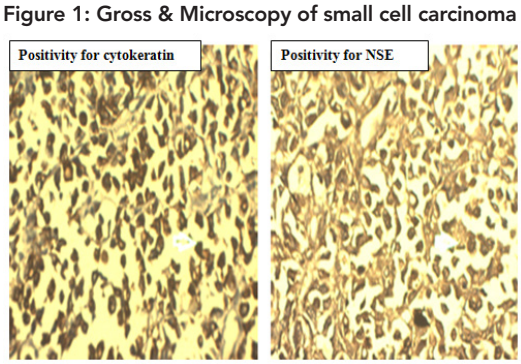

Figure 2: IHC tumour cells showing diffuse positivity for Cytokeratin & NSE

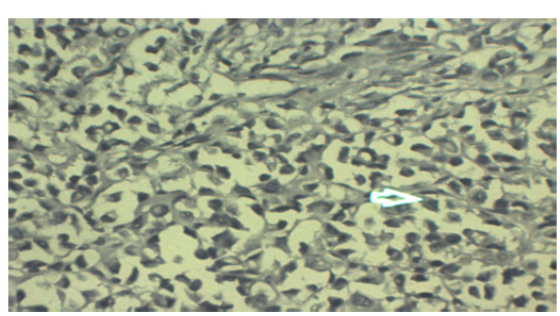

Figure 3: Small cell carcinoma IHC-CD 20 negative

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Discussion:

Small cell carcinoma of the ovary is a very rare malignant, most undifferentiated ovarian carcinoma with a very poor prognosis, occurs in young females and is nearly always bilateral[7].Out of the two types hypercalcemic type and pulmonary type of small cell carcinoma of ovary, pulmonary type is still more rare[8], very rarely published in the literature. A case reported by Mebis J et al[9] was in a 54 year old lady, and was a pulmonary type of small cell carcinoma in combination with endometroid adenocarcinoma of the left ovary and in combination with a Brenner tumour in the right ovary and the tumour was in the stage 111C. Eleven primary small cell carcinoma of lung reported by Eichhorm J et al[5], among which 5 were bilateral. Combination with other tumours of the ovary was found in 5 cases. Seven cases showed NSE positivity, 6 cases were positive for keratin immunohistochemically. They did not divide the tumours into pulmonary type and hypercalcemic type. In the present case the tumour was pure without any combination with other ovarian tumours and with short history without hypercalcemia or metastasis and in the stage II B[10] where the tumours were limited to the ovaries. This is first case of small cell carcinoma ovary we have come across in this institution.

Conclusion:

Small cell carcinoma is rare. The literature published show rare case reports mainly of hypercalcemic type which mainly occurs as a unilateral tumour only in the ovary and in young women. Pulmonary type of small cell carcinoma has to be differentiated from secondaries in the ovary from small cell carcinoma of the lung mainly by clinical history and imaging findings .The present case is a pulmonary type confirmed by immunohistochemistry, without any history or findings of tumour in the lung.

REFERENCE

1. Dickersin GR, Kline IW, Scully RE. Small cell carcinoma of the ovary with hypercalcemia. A report of eleven cases. Cancer1982; 49:188-97. | 2. Scully RE. Small cell carcinoma of hypercalcemic type. Int J Gynecol Pathol 1993; 12:148-52. | 3. Young RH, Oliva E, Scully RE. Small cell carcinoma of the ovary, hypercalcemic type. A clinicopathological analysis of 150 cases. Am J Surg Pathol 1994; 18:1102-16. | 4. C. Zaloudek. Tumours of the female genital tract. Part A -Tumours of the ovary. In: Fletcher CDM, ed. Diagnostic Histopathology of Tumours. 3rd ed. London: Churchill Livingstone; 2007; p 616. | 5. Eichhorn JH, Young RH, Scully RE.Primary ovarian small cell carcinoma of pulmonary type. A clinicopathologic, immunohistologic, and flow cytometric analysis of 11 cases. Am J Surg Pathol 1992; 16:926-38. | 6. 1015. Dickersin GR, Scully RE. Ovarian small cell tumors: an electron microscopic review. Ultrastruct Pathol 1998; 22:199-226. | 7. Lamovec J, Bracko M, Cerar O: Familial occurrence of small-cell carcinoma of the ovary. Arch Pathol Lab Med 1995;119:551-4. | 8.Rosai J. Female Reproductive system. In: Ackerman Surgical Pathology. 9th ed. Missouri: Mosby, 2004; 1599-60. | 9. Mebis J, De Raeve H, Baekelandt M et al. Primary ovarian small cell carcinoma of the pulmonary type: a case report. European journal of Gynaecological Oncology 2004, 25: 239-41 | 10. Tavassoli FA, Deville P, eds. In: World Health Organization of Tumours. Pathology and Genetics of Tumours of the Breast and Female Genital Organs. Lyon: IARC Press: 2003. p 116 |