Case Report

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Lipid Cell Tumor of Ovary- Case report

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Abstract

Lipid cell tumor of the ovary is among the rarest tumors belonging to the virilizing group of ovarian neoplasms. A lipid cell tumor of the ovary is described in a 21-year-old woman with secondary amenorrhea, infertility, hirsutism, and frank virilization.

Key words: Hirsutism, Cushingoid features, Secondary Amenorrhea, stromal cell tumor

Introduction

Lipid cell tumor of the ovary is among the rarest tumors [1]. Lipid cell tumors of ovary account for less than 0.1% of all ovarian tumors [2]. The majority of these tumors is seen in women in the reproductive age group and to a lesser extent, postmenopausal women [3]. The adopted term "lipid cell tumor" was proposed as a specific designation for a tumor containing variable admixtures of hilar-like and adrenal-like cells and generally causing virilization [1].

Case report

Twenty five year old female came with complaints of a) Amenorrhoea since 1 year, b) Infertility, c) Abnormal weight gain – Muscles well developed, d) Abnormal facial and body hair growth since 1 year. There was no thyroid swelling and systemic examination was normal. On per rectal examination- uterus was normal in size and no mass was palpable in the adnexa. Hence a provisional diagnosis of (1) Cushing's syndrome (2) Androgen producing ovarian tumor was made.

On lab investigation, FSH value was 1.98 m IU/ml (Normal=2.5-10.2), LH value was 1.16 ml IU/ml (Normal=1.9-12.5), F Testosterone value was 5.88 pictograms (Normal=1-2). Specific investigation like FSH, LH were done and they are slightly decreased. F Testosterone, DHEA-S was increased. Cortisol and ACTH were normal, suggesting that there is no possibility of Adreno

cortical tumor. Cortisol after Dexamethasone was normal, suggests no evidence of any pituitary adenoma (or) ectopic ACTH production and cushing's syndrome was ruled out. The possible differential diagnosis had been ruled out with relevant clinical investigations and the case is diagnosed as ovarian tumor secreting androgen.

Ultrasound examination showed 8x6cm mass arising from left ovary. Exploratory laporotomy was done. Ovarian tumor was send for HPE. Grossly the tumor is 6x6cm in size cut section is yellowish in appearance with thick Capsule.

HPE showed polygonal tumor cells arranged in sheets with clear cytoplasm and centrally placed nucles. Few cells showed granular cytoplasm.

Discussion

Historically these tumors have been referred as Lipid cell tumors, adrenal-like tumors, masculinovoblastomas, and adrenal rest tumors. Genesis of lipid cell tumors is controversial, whether they are primarily ovarian or adrenal in origin as adrenal and ovarian steroid producing cells are derived from common primitive mesenchymal cell. When the stromal cell in the ovary becomes neoplastic they have the potential to function like adrenocortical tissue [4]. They form a subtype of sex-chord stromal tumors. These tumors can originate from any normal steroid hormone producing cell and hence are further divided into three subtypes: stromal leutoma, Leydig cell tumor and Steroid cell tumor (not otherwise specified) [5,6]. A study in Massachusetts General Hospital showed 94% unilateral tumors [6]. A study by Outwater Ek et al reported 25-45% as clinically malignant [7]. Hayes and Scully defined five pathologic features suggestive of malignancy: size of 7 cm or more, more than two mitosis per high power field, necrosis, hemorrhage and nuclear atypia [6]. Both benign and malignant lipid cell tumors produce predominantly androstenedione and testosterone. Osborn et al [8] stated that, regardless of the histogenesis of the tumor, exceedingly high levels of testosterone and androstenedione in the peripheral plasma suggest an ovarian tumor. Bonaventura et al [9] observed that the androstenedione was the predominant product of lipid cell tumors, whereas, testosterone was the predominant product of hilus cell tumors (Leydig cell).

Surgical removal of the tumor reverts the steroid level to normal rather rapidly with the resumption of menstrual cycles in the child-bearing age group. The virilism also gradually diminishes to normal or to a near normal state.

The authors were not able to perform any immunohistochemical studies in the present case; however, this procedure seems to be a promising adjunct diagnostic procedure. These tumors have immunohistochemistry staining positive for gonadotrophin receptors and vimentin [10].

In this patient, menstruation resumed after 2 months. There was marked regression in male type hair distribution and there was reduction in weight by 15 kg in 3 months. Her hormone levels became normal at the end of 3 months. Follow up for the last one year showed no recurrence.

This case is presented because in a case of amenorrhea with Hirsutism, a diagnosis of lipid cell tumor should be considered. Timely surgical intervention will lead to rapid reversal in functional and morphological disfigurement.

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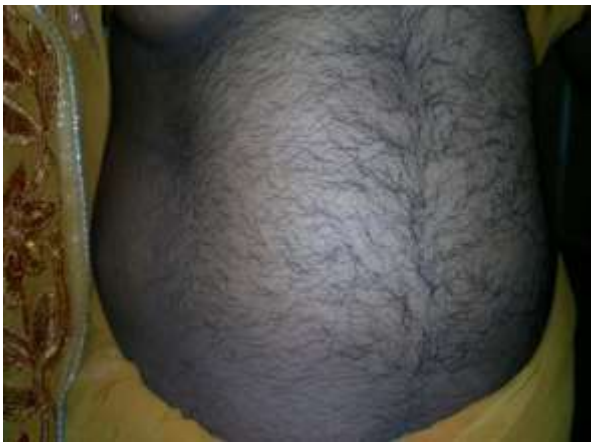

Figure 1: Hair distribution pattern

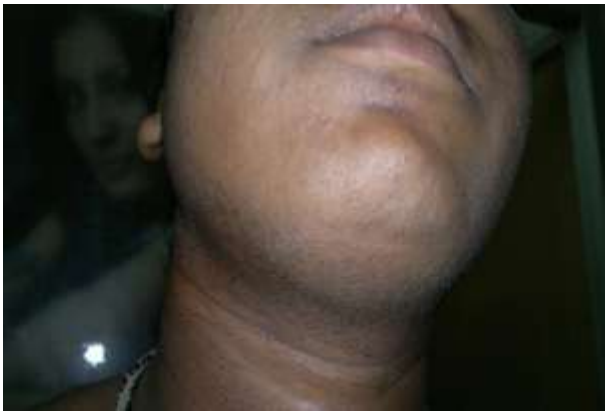

Figure 2: Hair distribution pattern

Figure 3: Cut section of ovary with cheesy material

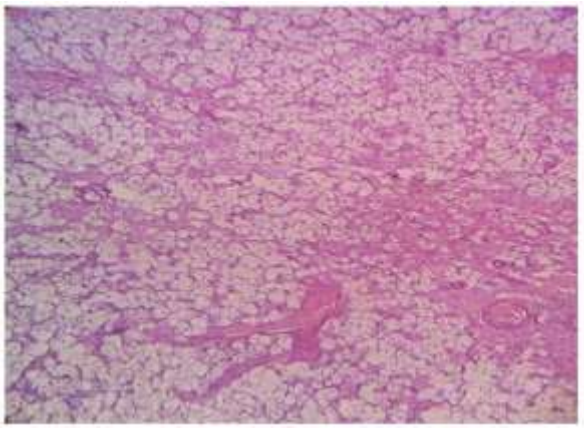

Figure 4: Polygonal cells with vacuolated cytoplasm