

Gonadoblastoma: An Ovarian Tumor with Characteristic Pelvic Calcifications

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Typical circumscribed mottled calcifications in the pelvis are a frequent finding in gonadoblastomas. Six patients with this tumor are reviewed. Radiologically visible calcifying gonadoblastomas were found in three cases.

Gonadoblastomas are gonadal neoplasms composed of germ cells, cells of sex chord origin, and, in 66% of cases, mesenchymal elements. The tumors are potentially malignant. Overgrowth of dysgerminomatous elements capable of metastasizing is common [1]. The coexistence of embryonic teratomas, embryonal carcinomas, choriocarcinomas, and endodermal sinus tumors in association with gonadoblastomas has been reported [2].

These tumors calcify, and as the process becomes extensive or confluent, a characteristic pattern of calcification develops that can often be identified radiographically.

Clinical Findings

Six cases with proven gonadoblastoma were reviewed. Ages ranged from 14 to 31 years. The most common finding was amenorrhea, occurring in five cases. Virilization was frequent. Four individuals exhibited hirsutism, and three had clitoral hypertrophy. A pelvic mass was palpable in three patients. In each case the mass was found to be dysgerminomatous overgrowth in a gonadoblastoma.

Three of the six cases had a gonadoblastoma identified preoperatively by radiographically visible calcific deposits. The remaining three had microscopic tumor calcifications.

Discussion

As these tumors calcify, they tend to assume a characteristic circumscribed mottled or punctate appearance (figs. 1 and 2). If the neoplasm is partially or asymmetrically calcified, differentiation from calcified fibroids, phleboliths, and less common types of pelvic calcifications such as seen in corpus albicans may be difficult (fig. 3) [3]. History and clinical findings will generally allow the diagnosis of gonadoblastoma since the tumors are usually hormonally active.

The calcifications in gonadoblastomas may be unilateral or bilateral by x-ray. The previously reported case demonstrated bilateral calcific deposits [4]. Unilateral tumor calcifications were observed radiographically in three of the patients in this study, although at surgery the tumors were found to be bilateral.

In addition to the calcific deposits noted in the gonadal region in three patients, five had spina bifida occulta and

one had a horseshoe kidney. A delay in skeletal maturation can occur. One case had an incomplete closure of the ilial epiphysis.

Characteristic-appearing pelvic calcifications together with findings associated with amenorrhea should alert the physician to the possibility of a gonadoblastoma.



Fig. 1. — 17-year-old white female with typical circumscribed mottled calcification in left gonadal area. Spina bifida occulta at L5, S1-S3. Gonadoblastoma proven at surgery.

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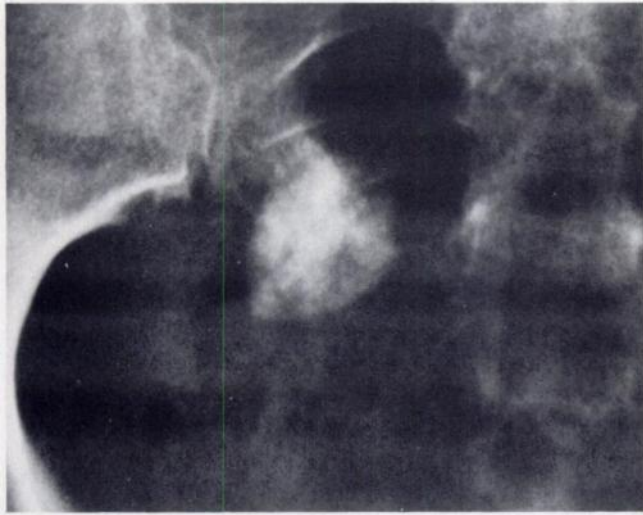


Fig. 2.—31-year-old white female. Circumscribed mottled calcifications in right gonadal area. Spina bifida occulta at S1. Gonadoblastoma confirmed at surgery.

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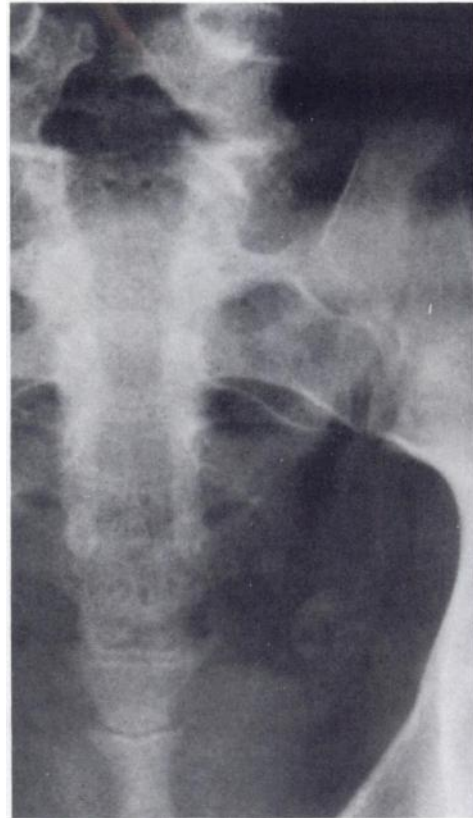


Fig. 3.—14-year-old white female. Faintly calcified, somewhat circumscribed calcification in left side of pelvis. Spina bifida occulta at L5 and in sacrum generally.