Struma ovarii

Patient Information Series – What you should know, what you should ask.

What is it?

Struma ovarii is a monodermal teratoma (also known as dermoid cyst) entirely or predominantly (over 50%) composed of mature thyroid tissue. It's a relatively rare condition, representing about 3% of all ovarian teratomas and 0.5 % of all ovarian tumours, predominantly affecting women between 40 and 60 years. In most cases struma ovarii is a benign condition, however in about 5% of cases it can present a malignant transformation and can potentially have a metastatic diffusion. It is usually unilateral.

Which are the symptoms?

Most cases of struma ovarii are asymptomatic. Depending on the volume of the mass, abdominal pain, distention, urinary, or bowel dysfunction due to extrinsic compression might be present. If the ectopic thyroid tissue is functioning (5-20% of cases), struma ovarii might cause hyperthyroidism or even thyreotoxicosis, therefore resulting in palpitations, hypertension, tremor, anxiety, weight loss and insomnia. In a small number of cases, benign Struma ovarii is reported to be associated with ascites and pleural effusion, configuring the so-called "pseudo-Meigs' syndrome".

How could it be diagnosed?

Regular gynecological check-ups can allow an early diagnosis, optimizing the chance to preserve fertility after surgery. A pelvic ultrasound is necessary for the detection, characterization and differential diagnosis s and CT scan/MRI assessment can be useful to exclude advanced stage or metastatic malignancy. However, it's worth considering that struma ovarii can often present heterogeneous and aspecific US features, which could lead to misdiagnosis and suspicion for malignancy.

In case of hyperthyroidism, first-line assessment of the thyroid gland is necessary to exclude a primary thyroid dysfunction and therefore consider ectopic secretion of thyroid hormones. In these cases, iodine scintigraphy can reveal a high uptake in ovarian tissue.

How can this condition be treated?

The surgical removal of struma ovarii is the first-line treatment. The type of surgery can be personalized according to age, fertility, reproductive desire and suspicion of malignancy.

In pre-menopausal women, ovarian cystectomy can be an appropriate treatment, oophorectomy must be considered for larger masses without any residual ovarian tissue to preserve. In postmenopausal women, total hysterectomy with bilateral salpingo-oophorectomy might as well be an option to discuss with the patient. A mini-invasive approach is preferable whenever the volume of the mass can allow it.

In case of thyreotoxicosis, surgical treatment could be postponed until euthyroidism is reached with medical treatment.

If a malignant struma ovarii is diagnosed at final histology, additional treatment might be required, such as intraperitoneal staging, radioiodine treatment and thyroidectomy.

Which follow-up will I need?

As most cases of Struma ovarii have benign features, no specific follow-up is required. Regular gynaecological examinations are still recommended for prevention.

What other questions should I ask?

- Could the disease relapse after surgery?

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