Ovarian Deciduosis Mimicking Malignancy: A Case Report & Digital Pathology Framework for Recognizing Benign Pregnancy-Associated Lesions

Table S1. Structured summary of the clinicopathological findings.

Parameter	
Age / obstetric status	34 years; second gravida; full-term normal vaginal delivery with episiotomy
Indication / procedure	Day-2 postpartum elective tubal ligation; incidental right ovarian cyst; right ovarian cystectomy + bilateral tubal ligation
Cyst dimensions	5 × 4.5 × 3 cm
External surface	Greyish-white with multiple off-white, shiny, smooth, elevated surface nodules
Cut surface / contents	Clear serous fluid; smooth inner lining; wall thickness 0.4 cm
Right fallopian tube	4.5 cm length; 0.5 cm diameter
Cyst lining (microscopy)	Single layer of flattened-to-cuboidal epithelium; no stratification, papillae, atypia, or mitoses
Nodular deposits	Large polygonal cells, abundant pale-eosinophilic cytoplasm, central bland nuclei; surface and stromal; congested; decidua-like
Background ovary	Normal stroma with corpus luteum and follicular cysts
Immunohistochemistry	PR positive, CD10 positive; CK7 focal positive; inhibin focally positive; CK20 negative
Final diagnosis	Right ovarian serous cystadenoma with ovarian deciduosis
Occult-malignancy workup	Serum markers within normal limits. No Gastric complaints
Management/outcome	Multidisciplinary team consensus; no further treatment; asymptomatic on follow-up for one year

Table S2. Morphological and immunohistochemical discriminators of ectopic decidua from its principal mimics.

Feature	Ectopic decidua / deciduosis	Decidualized endometriosis	Luteinized stromal proliferations	Carcinoma (Metastatic / Primary ovarian)	Malignant mesothelioma
Nuclear atypia	Minimal/bland	Usually, bland	Usually bland to mildly atypical	Marked	Moderate–marked
Mitoses	Absent/rare	Absent or very rare	Usually low	Frequent	Present
PR	Strongly Positive	Usually positive in decidualized stromal cells	May be variable; not the main defining marker	Variable	Negative
CK7	Usually negative (may be focal)	Usually positive in endometrial/decidualized stroma	Not the primary marker; may be variable	Positive/Variable depending on location	Positive
CK20	Negative	Negative	Usually negative	Variable depending on location	Negative
CD10	Positive	Negative in decidualized stromal cells	Negative	Negative	Variable
Calretinin	Negative	Negative	Positive	Negative	Positive
Inhibin	Focal/negative	Usually negative in decidualized stromal cells	Positive	Negative	Negative
Clinical context	Pregnancy/progesterone exposure; regresses postpartum	Prior history may be present	Pregnancy / hormonal stimulation	Older age; mass / ascites	Asbestos exposure; serosal