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**Abstract**

Recent studies have provided molecular confirmation that a subset of yolk sac tumors is somatically derived. Somatically derived yolk sac tumors are typically diagnosed in older women and are often seen adjacent to epithelial proliferations (such as endometriosis or endometrioid carcinoma) with which they share mutations. Here, we present a case of a postmenopausal woman with a yolk sac tumor and endometriosis in the right ovary, endometriosis with glandular crowding and reactive changes in the left ovary, endometrial endometrioid carcinoma, and yolk sac tumor involving the serosa of the colon. Targeted next- generation sequencing of these five tumor components demonstrated identical mutations in PTEN (p.R130G), PIK3CA (p.G1049S), FGFR2 (p.S252W), and FBXW7 (p.R689Q), suggesting that all components arose from a common precursor. The endometrial endometrioid carcinoma harbored additional exclusive mutations involving PIK3CA (p.H1048R) and CTNNB1 (p.S37F).