

Psammoma bodies in malignant adnexal lesions . Cristina Taliento^{1,2}, Stefan Timmerman^{1,3,4}, Serena Guerra¹, Anne-Sophie Van Rompuy⁵, Dirk Timmerman^{1,3}, Wouter Froyman^{1,3} 1. Department of Development and Regeneration , KU Leuven, Leuven, Belgium 2. Department of Obstetrics and Gynecology, University Hospital “Sant’Anna”, Ferrara, Italy 3. Department of Obstetrics and Gynaecology, University Hospital Leuven, Leuven, Belgium 4. Department of Obstetrics and Gynaecology, Jessa Ziekenhuis, Hasselt, Belgium 5. Department of Pathology, University Hospitals Leuven, Leuven, Belgium	
BACKGROUND Psammoma bodies (PB) are concentric, lamellated structures typically composed of calcium and trace amounts of other minerals, ranging from 20 to 100 µm in diameter. Their prevalence has been more frequently reported in low-grade serous ovarian carcinomas (LGSOC) compared to high-grade serous ovarian carcinomas (HGSOC). Although data on their prevalence could have clinical implications for imaging, studies that specifically address the prevalence of PB in ovarian malignancies are limited. This study aims to investigate the prevalence of PB in malignant adnexal masses and explore their association with demographic and pathological variables.	RESULTS A total of 228 malignant adnexal masses were included in the study, with a mean patient age of 56.4 ± 15.26 (DS) years. Among these, 201 were epithelial tumors: 119 serous, 8 clear cell, 19 endometrioid, 2 carcinosarcoma, 2 mesonephric-like adenocarcinoma, 47 mucinous, 2 seromucinous, and 2 classified as miscellaneous tumors. The remaining masses were non-epithelial, consisting of 3 germ cell tumors, 5 sex cord-stromal tumors, and 19 secondary metastases. The prevalence of PB was 19.3% (44/228) among the malignant adnexal masses. PB presence was significantly associated with patient age (p < 0.001) and advanced FIGO stage (III-IV, p < 0.001). Furthermore, we found that the presence of PB was strongly associated with serous histology (p < 0.001). Among these, 75.6 % (31/41) were HGSOC, 12.2% (5/41) were LGSOC, and 12.2% (5/41) were serous borderline ovarian tumors.
METHODS We conducted a retrospective analysis of prospectively collected data from patients previously enrolled in the IOTA 3, IOTA 5 and IOTA 7 studies at a single institution (University Hospital Leuven, Leuven, Belgium) between 2010 and 2024. Only cases with malignant ovarian tumors were included. Patients who did not undergo primary or interval debulking surgery, biopsy for ovarian cancer, or those without a pathology report from the referring institution were excluded. The chi-squared test, Fisher's exact test, or Mann-Whitney U test was used to assess the strength of associations between variables. A p-value of <0.05 was considered statistically significant.	
CONCLUSIONS PB are associated with serous epithelial ovarian tumors, both LGSOC and HGSOC, patient age, and advanced tumor stage. Further research is needed to explore the relationship between PB and sonographic features. These findings could have important clinical implications for the diagnostic strategies of malignant ovarian tumors.	CONTACT Wouter Froyman, MD, PhD, Professor, Department of Obstetrics and Gynecology, University Hospitals Leuven, Leuven, Belgium. Department of Development and Regeneration, KU Leuven, Leuven, Belgium. ON4 Herestraat 49 - box 805 3000 Leuven, Belgium. Email: wouter.froyman@uzleuven.be. Tel. 016/344202.