Conclusion A high rate of clinical responses (complete/partial) to (CT)RT was registered. Post-operative complications resulted acceptable compared to literature data. pCR is associated with excellent survival also in these tumors as demonstrated in other neoplasms. The multidisciplinary approach is crucial to complete the combined treatment planned [(CT)RT+/− surgery]. In the future, predictive models could allow to select patients on the basis of their foreseen response.

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HOW TO PREDICT PREOPERATIVE RISK OF LYMPH NODE METASTASIS IN VULVAR CANCER PATIENTS THE MORPHONODE PREDICTIVE MODEL

Abstracts

Introduction/Background Preoperative evaluation of inguinal lymph nodes in vulvar cancer patients is still a challenge. Our aim was to build a robust, multi-modal ultrasound model based on artificial intelligence.

Methodology From March 2017 to April 2020, 127 women were included at our center and 237 inguinal regions were studied before surgery by ultrasound experienced examiners. Ultrasound features defined in previous studies were prospectively collected. Histopathology was considered the reference standard. Fourteen informative features were used to train and test the machine, in order to obtain a diagnostic model. The following data classifiers were integrated into the predictive model: 1) random forest classifiers (RCF); 2) decisional tree (DT); 3) regression binomial model (RBM); 4) similarity profiling (SP). A predictive tool was implemented in the open-source R package, available on line as ‘Morphonode Predictive Model’ at https://github.com/Morphonodepredictivemodel.

Results The tool provides four output modules: 1) the binary malignancy prediction (Morphonode-RFC), distinguishing between malignant and benign lymph nodes with an accuracy of 93.3% and a negative predictive value of 97.1% (95%CI 83.8–100.0); 2) the risk signature (Morphonode-DT), identifying 4 specific signatures correlated with the risk of metastases: metastatic signature (MET), high metastatic risk (HMR), moderate metastatic risk (MMR) and low metastatic risk (LMR); the point risk of metastasis for each signature is 100%, 81%, 16% and 4% respectively; MET signature correlates with higher risk for multiple metastatic nodes (frequency of 45.7%); 3) the point malignancy risk, providing a point risk estimate in each specific lymph node described (Morphonode-RBM); 4) a selection of the top-5 similar profiles in the
study series, supporting the clinician to integrate output analysis (Morphonode-SP).

Conclusion Our findings indicate that Morphonode Predictive Model is a simple and observer-independent tool. It could be easily integrated in the clinical routine for preoperative stratification of vulvar cancer patients.

MULTICENTER EXPERIENCE ON SENTINEL NODE MAPPING IN VULVAR MELANOMA: EVALUATION OF CLINICAL IMPACT

Introduction/Background Melanoma of the vulva is a rare disease, often burdened by a poor prognosis. It is essential to define the optimal treatment in early stage disease. This multicenter retrospective study investigates the role of preoperative lymphoscintigraphy and sentinel node biopsy (SNB) and the impact of SNB on loco-regional control and survival in vulvar melanoma patients with clinically negative nodes (cN0).

Methodology All women treated between July 2013 and March 2021 were evaluated. Inclusion criteria consisted in: (i) histologically proven vulvar invasive melanoma, (ii) a Breslow tumor thickness of 1-4 mm and (iii) cN0 at preoperative evaluation. Patients selected underwent a preoperative lymphoscintigraphy followed by SNB with or without inguinofemoral lymphadenectomy. DFS and OS were assessed by the Kaplan-Meier method.

Results Eighteen women were included for a total of 28 groins studied. Planar images showed 51 sentinel nodes (SNs) in the enrolled inguinal regions. SNs were identified in all groin cases. Metastatic SNs were found in 5 patients (27.7%) for a total of 8 metastatic nodes in 7 groins (25%). Recurrent disease was diagnosed in 10 (55.5%) patients at 3 to 30 months: 7 were SN-negative, among which no specific groin recurrence was observed; 3 were SN-positive, among which 2 patients died of disease after 26.2 and 33.8 months, respectively. The overall mortality rate was 0% for SN negative and 40% in SN positive patients. OS and DFS at 36 months were 62.5% and 19.2%, respectively. The median DFS was 18.0 months (95% CI, 10.3–30.0).

Conclusion Lymphoscintigraphy followed by sentinel lymph node biopsy in patients with vulvar melanoma is feasible and allows adequate assessment of the stage of disease. Negative SNB is associated with low risk of groin relapse and good survival rate. Further prospective multicenter studies are needed to evaluate the criteria for clinical application.