Gynecologic Oncology xxx (2017) xxx–xxx

Contents lists available at ScienceDirect

Gynecologic Oncology

journal homepage: www.elsevier.com/locate/ygyno

Incidence and survival of glandular vulvar malignancies in the Netherlands

Michelle van der Linden [a,*], Melinda Schuurman [b], Johan Bulten [c], Maaike van der Aa [b], Leon Massuger [a], Joanne de Hullu [a]

[a] Department of Obstetrics and Gynaecology (791), Radboud University Medical Centre, P.O. Box 9101, 6500 HB Nijmegen, The Netherlands
[b] Department of Research, Netherlands Comprehensive Cancer Organization (IKNL), P.O. Box 19097, 3501 DB Utrecht, The Netherlands
[c] Department of Pathology (824), Radboud University Medical Centre, P.O. Box 9101, 6500 HB Nijmegen, The Netherlands

HIGHLIGHTS

- The majority of glandular malignancies of the vulva are primary tumours.
- Adenocarcinomas and invasive vulvar Paget disease are the most common diagnoses.
- Five-year net survival of primary glandular malignancies was 68.5%.
- Five-year net survival for early stage disease was 69.9%, for advanced 36.1%.
- Secondary glandular malignancies originate most often from anorectal malignancies.

ARTICLE INFO

Article history:
Received 27 December 2016
Received in revised form 17 January 2017
Accepted 18 January 2017
Available online xxxx

Keywords:
Vulva
Neoplasms, glandular and epithelial
Adenocarcinoma
Epidemiology
Incidence
Survival

ABSTRACT

Aim. There is limited knowledge in the field of glandular vulvar malignancies. The aim of this study is to describe the incidence and survival of women with glandular vulvar malignancies.

Methods. We searched PALGA, a nation-wide database registering all histo- and cytopathology in the Netherlands, for all cases of glandular vulvar malignancies between 2000 and 2015. Additional data were retrieved via the Netherlands Cancer Registry. Incidence rates were calculated per 1,000,000 women per year. Five-year net survival rates were calculated.

Results. We identified 197 patients with a glandular vulvar malignancy. Of these patients 55% had a primary malignancy while 45% had secondary malignancies: expansion of another tumour in 17% and metastases or recurrences of another malignancy in 28%. There is a great variety of different diagnoses of primary vulvar malignancies: 11 different types were identified. We found an overall incidence rate of glandular vulvar malignancies of 0.9–2.5 per 1,000,000 women per year. Five-year net survival for patients with a primary malignancy was 68.5%. Most of the secondary vulvar malignancies originated from (ano-)rectal malignancies.

Conclusion. Glandular vulvar malignancies are extremely rare and primary tumours are slightly more common. Overall survival of patients with primary glandular vulvar malignancies is comparable to patients with a vulvar squamous cell carcinoma, with five-year survival around 70%. The great variety in diagnoses combined with the low incidence should lead to routine pathologic revision and treatment in specialised gynaecologic oncology centres.

1. Background

In the Netherlands the incidence of vulvar cancer was 4 per 100,000 women in 2015 [1], representing 7% of all gynaecological malignancies. Primary vulvar malignancies can be divided into epithelial and non-epithelial malignancies, Fig. 1 presents an overview of the different types. More than 80% of the cases are of the squamous cell type [2,3]. Vulvar melanomas and basocellular carcinomas are less common [3].

* Corresponding author.
E-mail addresses: Michelle.vanderLinden@radboudumc.nl (M. van der Linden), M.Schuurman@iknl.nl (M. Schuurman), Hans.Bulten@radboudumc.nl (J. Bulten), M.vanderAa@iknl.nl (M. van der Aa), Leon.Massuger@radboudumc.nl (L. Massuger), Joanne.deHullu@radboudumc.nl (J. de Hullu).

http://dx.doi.org/10.1016/j.ygyno.2017.01.020
0090-8258/

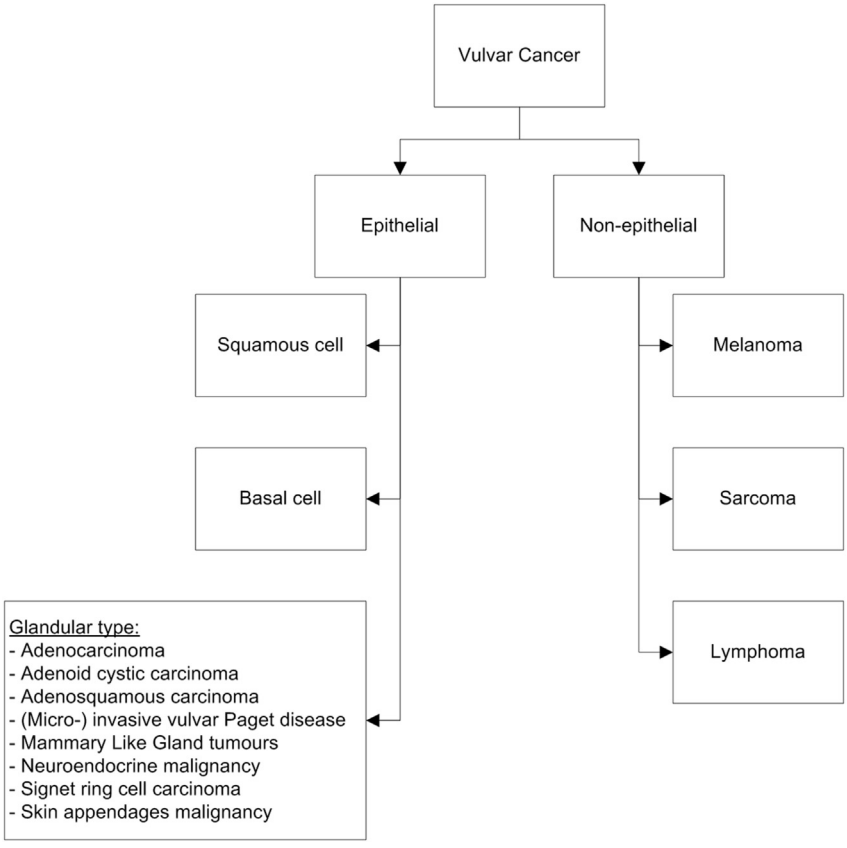

Fig. 1. Overview of different types of primary vulvar cancer.

Epithelial carcinomas of the extremely rare adenotype are called glandular tumours altogether and consist of several diagnoses.

The most common and ambiguous term for a glandular vulvar malignancy is vulvar adenocarcinoma. Invasive vulvar Paget disease (VPD) and Bartholin's gland tumours are the most common adenocarcinomas. Tumours of the skin appendages and mammary-like-gland (MLG) tumours are extremely rare [4,5]. Besides these primary adenocarcinomas, several case reports are published about patients with secondary vulvar metastases of other primary malignancies, such as: breast [6], colon [7], lung [8], or other gynaecological malignancies [9–11].

In contrast to vulvar squamous cell carcinomas (VSCC), with a human papilloma virus related and a lichen sclerosus related pathway, the oncogenesis of glandular vulvar malignancies is unknown. Furthermore, there are no recent data on the incidence rates, nor on the survival rates of patients with these glandular vulvar malignancies.

In the Netherlands, centralization of care for patients with VSCC in specialised oncology centres was implemented in 2000 with beneficial effects on survival [12]. The national guideline states all vulvar malignancies except vulvar basal cell carcinomas should be treated in specialised oncology centres [13]. Due to its rarity, there is no disease specific guideline for management of glandular malignancies of the vulva in general; patients with glandular vulvar malignancies are treated according to the guidelines for VSCC.

This national study aims to present the incidence rate and survival of patients with various types of glandular vulvar malignancies.

2. Methods

2.1. Patient selection

We performed a search in the PALGA database, a nationwide network and registry of histo- and cytopathology in the Netherlands (~17 million inhabitants). The PALGA network has national coverage since 1991. We selected all women with a diagnosis of an invasive glandular malignancy of the vulva between 2000 and 2015 (ICD-O: C51.0-9). We excluded cases with a benign diagnosis, basal cell carcinoma, Merkel cell carcinoma, carcinosarcoma, (myo-)epithelial carcinoma, or spindle cell carcinoma. Cases in which the diagnosis was not specified, e.g.: carcinoma, undifferentiated carcinoma, were also excluded.

We matched the cases of invasive glandular vulvar malignancies to the Netherlands Cancer Registry (NCR) based on age and date of diagnosis for additional clinical data. We retrieved data on morphology, TNM classification, FIGO stage, differentiation grade, and treatment. The Netherlands Comprehensive Cancer Organization (IKNL) maintains the NCR by documenting all primary malignancies in the Netherlands, and has national coverage since 1989. Information on the vital status and date of death is obtained by annual linkage to the Municipal Personal Records Database, and was available up to 1 February 2016.

Tumour characteristics are reported according to the International Classification of Diseases for Oncology (ICD-O) and the Tumours Node Metastasis (TNM) classification guidelines [14]. The quality of the NCR is ensured by regular consistency checks, and completeness is estimated to be at least 95% [15,16].

2.2. Statistical analysis

Incidence rates were calculated for the most common diagnoses per 1,000,000 women per year. The number of inhabitants was obtained from Statistics Netherlands, and categorised per year and 5 year age category [17]. To obtain an estimation of the probability of survival of glandular vulvar tumours in the absence of other causes of death, we calculated net survival using the Porhar-Perme estimator, since this has been shown to be an unbiased estimator of net survival. Results of this estimator can be interpreted as survival in the hypothetical world where it is not possible to die from other causes. This allows the data to be compared with data from other counties [18]. Actuarial survival

Please cite this article as: M. van der Linden, et al., Incidence and survival of glandular vulvar malignancies in the Netherlands, Gynecol Oncol (2017), http://dx.doi.org/10.1016/j.ygyno.2017.01.020