



Case Report

Sentinel node procedure in vulvar carcinoma during pregnancy: A case report

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Introduction

Vulvar cancer is an uncommon disease, accounting for 3–5% of all gynecological malignancies. In the Netherlands the incidence rate is approximately 1–2/100,000 women. Only 15% of the invasive vulvar cancer occurs in women younger than 50 year (De Hullu & Van der Zee, 2006). Cancer complicates approximately 1 in 1000–2000 pregnancies and mainly breast cancer and haematologic malignancies are diagnosed (Van Calsteren et al., 2010). Cancer types diagnosed during pregnancy reflect the young age group and vulvar cancer during pregnancy is a rare co-incidence. The use of sentinel lymph node biopsy is a standard procedure in early vulvar cancer but has not been reported yet during pregnancy.

Case

A 27-year-old Caucasian woman, 19 weeks pregnant of a dichorial, diamniotic twin pregnancy, presented with a painful vulvar mass which already existed some months before her conception. She is a non-smoker and had no relevant medical history. She never had surgery. Her social economic class is mediocre, she completed middle-level applied education in administration and now she works as a salesperson.

The physical examination revealed a 12 mm verrucous, ulcerative lesion on the right labium minus. Also some lichen sclerosis was seen, with fusion of the labia, caudal of the clitoris. The distance between

the clitoris and the lesion was 5 mm. A biopsy showed a well-differentiated squamous cell carcinoma (SCC) with an invasion depth of 1.4 mm. There was no sign of vascular invasion or perineural growth. Human papillomavirus (HPV) was not detected.

After consultation and discussion with the oncology work group, a local excision of the carcinoma was performed with sparing of the groins and clitoris. Histopathology demonstrated a well-differentiated SCC with a horizontal spread of 13 mm and an invasion depth of 2.1 mm. Resection surfaces were free and there was no sign of vascular invasion or perineural growth. Because of the infiltration depth in the local excision, unilateral sentinel node procedure (SNP) was indicated. ^{99m}Tc was used for sentinel node identification, in dosages of 10.73 and 10.15 and 11.07 and 9.9 MBq on 4 sites of injection. The scintigraphy is presented in Fig. 1. Because of the pregnancy, patent blue has not been used in this procedure. The unilateral sentinel node was negative for lymphatic disease.

The patient was staged as vulvar carcinoma FIGO stage Ib, grade I and no adjuvant treatment was planned. Caesarean section was performed for obstetrical reason at a gestational age of 38 weeks and three days. Both infants were born healthy.

According to the national guidelines on follow up, no follow up imaging was done. One year later she still had no sign of relapse.

Discussion

We describe the first case of sentinel lymph node biopsy for vulvar cancer during pregnancy. Invasive vulvar cancer is rare in young women, especially in pregnant women. The patient in this case did not have any of the known risk factors for vulvar cancer.

In the absence of randomised trials or large studies, there is no standard treatment for vulvar cancer during pregnancy. Based on expert opinion, invasive vulvar cancer with clinical negative lymph nodes during pregnancy should preferably be treated as in non-pregnant women (Amant et al., 2009). Adequate maternal monitoring with maintenance of maternal homeostasis is the best guarantee for fetal well being. Pregnancy can increase blood loss during surgery. This is due to the hypervascularization of the pelvis. Therefore effective haemostasis is important. In addition, safe margins are important since adjuvant vulvar radiotherapy is detrimental for the fetus. Especially when there is no uterine manipulation, there is no proven benefit of prophylactic tocolysis (Amant et al., 2009). Vulvar scarring is a relative indication for caesarean section. Results of previous research in breast cancer during pregnancy show that SNP with ^{99m}Tc can be performed safely during pregnancy. Also in cervical cancer, the most common gynecological malignancy during pregnancy, the use of SNL is assumed safe (Silva et al.,

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Fig. 1. Scintigraphy for the detection of inguinal sentinel nodes in a pregnant patient with vulvar cancer.

2006). The close proximity of the vulva to the fetus deserves special attention, however. Therefore, precise calculation of fetal exposure to radiation with nuclear physicists is mandatory. It is estimated that 80% of the dosage remains in the pelvis and the distance from the fetus is at least 10 cm. With a theoretical dosage of 100 MBq ^{99m}Tc , the fetal risk

is negligible, because the fetal exposure is 1000 times lower than the lowest dosage with fetal risk. In this case a dosage of 41.85 MBq ^{99m}Tc has been used, which is assumed safe for the fetus. Anaphylactic shock reaction to patent blue has been described. This condition is potentially life-threatening for mother and fetus and the use of patent blue is therefore not recommended during pregnancy (Amant et al., 2009). Although the SNP appears safe for the fetus, maternal follow up is mandatory to document oncological safety. More cases and their outcome can be registered in an international database (www.cancerinpregnancy.org).

Conflict of interest statement

The authors declare that there are no conflicts of interest.

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