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## CERVICAL CARCINOMA IN PREGNANCY: CASE REPORT

### RAK CERVIKSA U TRUDNOĆI: PRIKAZ BOLESNICE

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*Case report*

*Key words:* pregnancy, cancer, cervix cancer

**SUMMARY.** The case of 29 years old pregnant III-para at 38 weeks of gestational age is presented. The patient was admitted complaining of vague abdominal pain. By speculum examination the large cervix with reddish ulcerative cervical canal was established and punch biopsy performed. The pathohistological diagnosis was well differentiated squamous cell carcinoma. No local metastases or lymph node or other signs of cancer spreading were present (stage 1a). The CS was done, born vital newborn of 2 kg weight, proceeded to total abdominal hysterectomy with bilateral salpingoophorectomy. The pathohistological finding was: Stromal invasion of 3 mm in depth and 6 mm in lateral spread (FIGO stage 1a1). Postoperative period was uneventful, the patient was referred to Institute of Nuclear Medicine for further management, where she received only 2 cycles of radiation and chemotherapy and thereafter stopped the treatment. Two years later the patient presented very ill and passed because of uremia.

*Prikaz bolesnice*

*Ključne riječi:* trudnoća, karcinom, karcinom cerviksa

**SAŽETAK.** Prikazana je bolesnica dobi 29 godina, III-para, s oko 38 tjedana trudnoće. Primljena je zbog nejasnih boli u donjem trbuhu. Pregledom u spekulum nađen je krupni cerviks s ulceracijom u cervikalnom kanalu. Pod anestezijom je učinjena biopsija cerviksa i dobivena patohistološka dijagnoza: dobro diferencirani karcinom pločastih stanica. Nije bilo lokalnih metastaza, širenja u limfne čvorove ili drugih znakova širenja raka (stupanj 1a). Učinjen je carski rez i nastavljena totalna histerektomija s obostranom salpingooforektomijom. Patohistološki nalaz je bio: stomalna invazija 3 mm u dubinu i postranična zahvaćenost 6 mm (FIGO stupanj 1a1). Postoperativni je tijek bio uredan, bolesnica je upućena u Zavod za nuklearnu medicinu radi zračenja i kemoterapije. Primila je samo dva ciklusa terapije i tada napustila liječenje. Nakon dvije godine pacijentica se pojavila vrlo bolesna, umrla je od uremije.

## Introduction

Cervical cancer is widely quoted to be one of the important malignancy in pregnancy. However the epidemiology of both cervical cancer and pregnancy are changing. In most western countries with organized screening the incidence of cervical cancer has dropped dramatically in the last 20 years. There has also been a significant stage shift to earlier stage disease: for many women of childbearing age the diagnosis represents micro invasive cancer. This is associated with an excellent prognosis and can be managed without major impact on current or future pregnancy.<sup>1</sup> Coincident with the change in cervical cancer incidence, the mean age at child birth in most western countries has increased to over 30, and increasing age is associated with increasing frequency of many cancers. A study linking California Cancer Registry data with maternal hospital discharge records for 1991–1999 reported a diagnosis of all malignancies in association with 1/1000 childbirths. Breast and thyroid cancers were more common than the cervix one.<sup>2</sup>

Clearly the situation is likely to be different in developing countries.

One to 3 percent of women diagnosed with cervical cancer are pregnant or postpartum at the time of diagnosis.<sup>3,4</sup> About one-half of these cases are diagnosed pre-

natally and the other half are diagnosed within 12 months following delivery.<sup>5</sup> Cervical cancer is one of the most common malignancies in pregnancy, with an estimated incidence of 0.8 to 1.5 cases per 10 000 births.<sup>5,8</sup>

Most patients are diagnosed at an early stage of disease.<sup>9,10</sup> This is probably a result of routine prenatal screening, but it is also possible that advanced stage disease interferes with conception. Stage for stage, the course of disease, and prognosis of cervical cancer in pregnant patients are similar to those of non-pregnant patients.<sup>10,11</sup>

There are no data from large randomized trials upon which to base recommendations for the care of pregnant patients with cervical cancer. Therefore, management is based upon evidence from randomized trials in non-pregnant women, findings from observational studies of pregnant women, and the unique medical and ethical considerations underlying each individual case. Treatment should be individualized and based on the stage of cancer, the woman's desire to continue pregnancy, and the risks of modifying or delaying therapy during pregnancy.

The presenting symptoms and signs of cervical carcinoma in pregnancy are dependent upon the clinical stage and lesion size. In two series, all pregnant patients with stage IA and 50 percent of those with stage IB car-

cinoma were asymptomatic at the time of diagnosis.<sup>8,12</sup> Patients with symptomatic stage IB disease presented with abnormal vaginal bleeding or discharge; clinical manifestations in patients with more advanced disease also included pelvic pain, sciatica-type leg pain, flank pain, chronic anemia, and shortness of breath.

The diagnosis of cervical cancer is often delayed in pregnant women since many of these symptoms are similar to those associated with a normal pregnancy. In one study, the average duration of symptoms before diagnosis of cervical cancer in pregnancy was 4.5 months.<sup>13</sup>

Herewith we report a rare case of cervical carcinoma.

## Case report

Female 29 years old, married for six years, illiterate, from western Sudan, presented to outpatient clinic in Wad Medani Maternity Hospital complaining of vague abdominal pain. Admitted as first stage of labour, later proved not to be in labour. We reviewed her medical history and performed an ultrasound examination of the fetus and of the cervix. Her previous two pregnancies she delivered vaginally at term and had been uncomplicated. She had no ongoing medical problems. The current baby was normally grown and no gross physical abnormalities were seen within the limits of an anatomical survey for this gestational age. The cervix measured 40 mm in length; no obvious adnexal abnormalities were seen, appreciated gestational age was 38 weeks.

Per vagina examination and cervical assessment showed no apparent vaginal bleeding or discharge, vagina healthy and moist, vulva normal. Cervix central, firm, nodular, hard, long (2 cm), and the os was closed. This finding encouraged us to speculum examination which confirmed the above findings; the large cervix with reddish ulcerative cervical canal and not bleed in touch was found.

Examination under anaesthesia was done and showed that parametrium and Douglas' pouch were free. No local metastases in the vagina or inguinal lymph nodes (stage 1a). Per rectum examination showed that the sphincters are intact, normal mucosa and there are no features of local spread. Punch biopsy was taken for histopathology. The result was »the well differentiated squamous cell carcinoma.« General investigations showed no abnormality except low haemoglobin value (9 gm/dl).

Her management supervised by a team consisting from obstetrician gynaecologist, haematologist, and histopathologist. Cesarean section was done, proceeding to total abdominal hysterectomy and bilateral salpingo-oophorectomy. We did an upper segment uterine incision to avoid the tumor. A 2 kg viable nice baby was delivered, cried immediately. Apgar score in 1, 5, 10 minutes were within normal. Intra-operative findings showed that there were no parametrium, bladder, uterosacral ligament involvements. There was no ascites and no lymph nodes involvements. Vaginal stump was closed

by purse string. Haemostasis easy secured. Estimated blood loss was 800 ml. The postoperative period passed smoothly, and the patient was discharged with her baby on 10<sup>th</sup> postoperative day in good health. The histopathology report staged the cervical cancer as FIGO stage (1a1): »Stromal invasion measured 3 mm in depth and 6 mm in lateral spread.« Ovaries, tubes and uterus were unremarkable.

The patient was referred to Institute of Nuclear Medicine and Oncology for further management, where she received 2 cycle of radiation and chemotherapy. Unfortunately she stopped the treatment.

Two years later she presented to us very ill, uraemic, with acute renal failure and uropathy. She passed because of uraemia and her baby playing around her.

## Discussion

Invasive cervical cancer during pregnancy is rare but is a dilemma for women and their physicians. The present study and review of the literature suggest that pregnancy does not seem to influence the prognosis of cervical cancer. Delayed treatment could be proposed to selected patients diagnosed at the end of the second trimester or at the beginning of the third trimester, with a small tumor (<2 cm) and negative nodes, after a multidisciplinary approach.

In his issue Germann et al.<sup>14</sup> describe a series of 21 cases of cervical cancer managed during pregnancy or the postpartum period. They point out that, despite numerous publications, questions remain regarding cervical cancer in pregnancy. What is the impact of pregnancy on the stage at diagnosis? Does pregnancy adversely affect prognosis? What is the consequence of planned delay of treatment so the pregnancy can be continued to a viable gestation? What is the most appropriate treatment?

Regarding stage at diagnosis, it is noted that in this study microinvasive disease is excluded, and yet still 71% were stage I; 76% were asymptomatic but it is not reported how many cases were diagnosed by smear. Pregnancy offers an opportunity for cervical screening but also brings challenges for early diagnosis. Colposcopy is technically more difficult, the complication rate following biopsy is higher, and further, vaginal bleeding caused by cervical cancer may go undiagnosed due to assumptions about pregnancy related causes. However, although some women may have a delayed diagnosis in pregnancy, the data in this paper and previous reports would generally suggest that stage is not affected adversely by pregnancy and may even be improved.<sup>15</sup>

Should invasive carcinoma be discovered in early pregnancy and thought to be unsuitable for primary surgical therapy, termination of the pregnancy is usually carried out with the method depending on the gestational age and is followed by radiotherapy. Certain patients with early stages of disease may be treated primarily with radical hysterectomy and pelvic lymphadenecto-

my. In contrast, our patient was treated by abdominal total hysterectomy and bilateral salpingoopherectomy dictated by our trend since the involvement of pelvic lymph nodes is expected to be rare (1%).<sup>16</sup> If the carcinoma is discovered in the later weeks of pregnancy, a delay in treatment is considered permissible to allow for viability of the fetus. For those patients diagnosed in the latter stage of pregnancy with a viable fetus, delivery by caesarean section is usually recommended although studies have not shown that vaginal delivery has produced a higher morbidity or decreased survival in patients delivered by this way.

In summary, cervical cancer remains an important but rare condition in pregnancy. The key to further limitation of mortality and morbidity from this condition is cervical screening. However, cases will still occur. Current data suggest that pregnancy does not adversely affect stage at diagnosis or prognosis. However, even with the further cases added in this issue, there are inadequate data to advise women from an evidence base on whether delay of treatment to facilitate delivery is safe, and there are almost no data upon which to base advice to women with disease beyond stage 1b. Treatment should be multidisciplinary and individualised following careful counseling. Further understanding of the natural history of cervical cancer is required. The collaborative collection of data relating to treatment and outcome, as advocated by the authors, is strongly encouraged.

## References

1. Gershenson D, McGuire W, Gore M et al. (eds). *Gynecologic Cancer: Controversies in Management*. New York, London, Edinburgh: Elsevier Churchill Livingstone 2004.
2. Smith L, Danielsen B, Allen M, Cress R. Cancer associated with obstetric delivery: Results of linkage with the California cancer registry. *Am J Obstet Gynecol* 2003;189:1128–35.

3. Nguyen C, Montz FJ, Bristow RE. Management of stage I cervical cancer in pregnancy. *Obstet Gynecol Surv* 2000;55:633–43.
4. Creasman WT. Cancer and pregnancy. *Ann N Y Acad Sci* 2001;943:281.
5. Smith LH, Dalrymple JL, Leiserowitz GS, et al. Obstetrical deliveries associated with maternal malignancy in California, 1992 through 1997. *Am J Obstet Gynecol* 2001;184:1504–22.
6. Smith LH, Danielsen B, Allen ME, Cress R. Cancer associated with obstetric delivery: results of linkage with the California cancer registry. *Am J Obstet Gynecol* 2003;189:1128–35.
7. Demeter A, Sziller I, Csapo Z, et al. Outcome of pregnancies after cold-knife conization of the uterine cervix during pregnancy. *Eur J Gynaecol Oncol* 2002;23:207–10.
8. Duggan B, Muderspach LI, Roman LD, et al. Cervical cancer in pregnancy: reporting on planned delay in therapy. *Obstet Gynecol* 1993;82:598–601.
9. Van Calsteren K, Vergote I, Amant F. Cervical neoplasia during pregnancy: diagnosis, management and prognosis. *Best Pract Res Clin Obstet Gynaecol* 2005;19:611–30.
10. Zemlickis D, Lishner M, Degendorfer P, et al. Maternal and fetal outcome after invasive cervical cancer in pregnancy. *J Clin Oncol* 1991;9:1956–61.
11. Hopkins MP, Morley GW. The prognosis and management of cervical cancer associated with pregnancy. *Obstet Gynecol* 1992;80:9–13.
12. Lee RB, Neglia W, Park RC. Cervical carcinoma in pregnancy. *Obstet Gynecol* 1981;58:584–9.
13. Hannigan EV. Cervical cancer in pregnancy. *Clin Obstet Gynecol* 1990;33:837–45.
14. Germann N, Haie-Meder C, Morice P et al. Management and clinical outcomes of pregnant patients with invasive cervical cancer. *Ann Oncol* 2005;16:397–402.
15. Zemlickis D, Lishner M, Degendorfer P et al. Maternal and fetal outcome after invasive cervical cancer in pregnancy. *J Clin Oncol* 1991;9:1956–61.
16. Sevin BU, Nadji M, Averette HE, et al. Microinvasive carcinoma of the cervix. *Cancer* 1992;70:2121–8.

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