

# Chondrosarcoma in the left hemipelvis imitating a pelvic ovarian mass in pregnancy: a case report

G. Somoye, M.D., MRCOG, S. Havenga, MRCOG

<sup>1</sup>Department of Obstetrics and Gynaecology, The Queen Elizabeth Hospital, King's Lynn NHS Trust, Norfolk

<sup>2</sup>Department of Obstetrics and Gynaecology, Peterborough District Hospital, Peterborough & Stamford NHS Trust (UK)

## Summary

**Purpose of investigation:** With the advent of routine sonography in pregnancy there has been an increase in the incidence of adnexal/pelvic masses. The differential diagnosis is most commonly ovarian. The complexity of diagnosing a pelvic mass in pregnancy is discussed. Chondrosarcomas most commonly occur in the pelvis and are rare in pregnancy. The clinical presentation and management in pregnancy are discussed. **Presentation:** We report on a case of pelvic chondrosarcoma in pregnancy imitating a pelvic ovarian mass on imaging. **Conclusion:** Clinicians should be aware of this diagnosis among the differentials of a pelvic mass presenting in pregnancy to enable timely and appropriate treatment.

**Key words:** Chondrosarcoma; Pregnancy.

## Introduction

Primary bone and soft-tissue tumors occur rarely in pregnancy. Though chondrosarcoma most commonly involves the pelvis, its occurrence in pregnancy is rare. The treatment of pelvic chondrosarcoma presents a challenging problem in musculoskeletal oncology. This may be hampered by a coexistent pregnancy.

We report the case of a woman who in the 20<sup>th</sup> week of pregnancy presented with a complaint of pain and numbness in the left lower limb approximately ten weeks after an apparently innocuous mass had been detected on dating (US) scan.

## Case Report

A woman presented at ten weeks' gestation in a second ongoing pregnancy. At her dating ultrasound (US) scan in the region of the left ovary an 8 cm complex cystic mass was demonstrated. Tumour marker CA-125 was slightly raised at 36 (normal range < 35). At her 20-week detailed scan, the cyst was reassessed with no observed changes. At this point she complained of pain and numbness in the left lower limb. She was managed conservatively with further US scans showing no changes. A vaginal delivery was planned and she had a ventouse delivery at 40 weeks of gestation with an uneventful postnatal period.

At six weeks postpartum follow-up the patient complained of increasing left hypochondrial pain and numbness of her thigh. On physical examination a firm irregular mass was noted attached to the left iliac crest in the left hypochondrium. Transvaginal ultrasound (TVS) showed a normal postpartum uterus, normal ovaries and no free fluid. An urgent staging computed tomography (CT) of the abdomen and pelvis showed a large soft tissue mass in the left iliac fossa in close relation to the left iliac wing with focal areas of calcification within the mass. An exophytic lesion was seen leading into the soft tissue mass. There was no evidence of invasion into adjacent abdominal and pelvic structures, retroperitoneal or pelvic lymphadenopathy.

Chondrosarcoma was entertained as a diagnosis. Following a multidisciplinary discussion the patient was urgently referred to the regional oncology orthopaedic centre.

At the centre arrangements were made to have full staging studies. A magnetic resonance imaging (MRI) scan showed a large chondroid tumour within the left hemipelvis arising from a pre-existing osteochondroma. CT chest scan showed a small nodule in the right lobe. A bone scan did not show any bony metastases. Histology of the tumour biopsy showed a low-grade chondrosarcoma. The patient subsequently underwent excision of the pelvic chondrosarcoma, which was confirmed as grade 1 chondrosarcoma. She made a satisfactory postoperative recovery. In view of the nodule noted on CT chest scan a multidisciplinary decision was made to repeat the scan in three months.

## Discussion

Pelvic masses in pregnancy have an overall incidence of four percent [1]. Most of these however, are ovarian in origin [1]. The advent of routine sonography in early pregnancy has led to an increase in the incidence of pelvic masses. The diagnosis is often made on clinical examination or following an incidental finding during a routine ultrasound. However the clinical examination of a pelvic mass in pregnancy may be hampered by a co-existing gravid uterus.

Chondrosarcoma, a soft tissue tumour, most commonly occurs in the pelvis. It rarely occurs in pregnancy. Gestational age at diagnosis has been shown to range from 11 weeks to two months postpartum. Chondrosarcomas have been known to grow in size during pregnancy [2]. Diagnosis may be delayed in pregnancy as initial non specific complaints such as pain, discomfort or numbness are often presumed to be symptoms of pregnancy [2].

Diagnosis is primarily made by imaging. This is compounded by the wide spectrum of characteristics that may present. MRI shows the extent of intraosseous and soft tissue involvement preoperatively [3]. CT is especially recommended for imaging in the pelvis to enable discer-

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nation of the pattern of bone destruction and presence of matrix mineralisation [3]. Radiotherapy may be required following incomplete resection, and chemotherapy may be effective in mesenchymal chondrosarcoma [3].

Treatment aims to achieve complete resection of the tumour with a wide en bloc excision the preferred surgical treatment. This includes hemipelvectomy and less invasive limb salvage procedures with less associated morbidity [4]. Surgery may be safely performed in pregnancy while deferring potentially toxic therapies to the puerperium [5]. Recurrence of pelvic chondrosarcoma may be difficult to manage, and the best outcome is associated with clear margins at the time of initial tumour resection [6]. Radical surgery in recurrences may be associated with a 50% long-term survival [6]. Spontaneous vaginal delivery has been described in women following hemipelvectomy [7].

Outcome and survival is influenced by tumour stage and the surgical margin achieved. Factors associated with poor outcome in high-grade tumours include pelvic location, local recurrence, tumour size greater than 100 cm<sup>2</sup>, aneuploidy, histological grade of 3 and a dedifferentiated type of tumour [8]. Adequate surgical excision is a determinant for a favourable outcome in low-grade chondrosarcoma [8].

Though the occurrence of chondrosarcoma is rare in pregnancy, clinicians should be aware of this possibility when a pelvic mass is diagnosed antenatally. The association with non responsive pain to analgesics or numbness in the pelvis may be due to tumour in the pelvic bone. Optimal outcome would involve appropriate investiga-

tions and an early multidisciplinary approach to treatment with involvement of an obstetrician and orthopaedic oncologist.

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Address reprint requests to:  
 G. SOMOYE  
 Department Gynaecological Oncology  
 Aberdeen Royal Infirmary  
 Cornhill Road - AB25 2ZN  
 e-mail: gsomoye@yahoo.com