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Multiple myeloma presenting with spinal cord compression during pregnancy

John Quinn · Neil Rabin · Manuel Rodriguez-Justo · David Choi · Kwee Yong

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Dear Editor,

Multiple myeloma (MM) is diagnosed before the age of 40 in just 2% of cases [1]. Accordingly, reports of MM in pregnancy are rare, with eight cases arising during pregnancy reported in the literature to date. Here we report the case of a young woman who presented with an aggressive form of MM during the third trimester of pregnancy with spinal cord compression. This is the first report of spinal cord compression secondary to MM presenting during pregnancy.

A 39-year-old woman presented with a 3 week history of back pain and a 24 h history of urinary retention and bilateral lower limb weakness at 32 weeks gestation. Emergency MRI spine showed replacement of the T12 vertebral body by abnormal soft tissue with epidural

extension, compressing the spinal cord (Fig. 1). She underwent emergency caesarean section delivering a healthy son followed by emergency spinal decompression surgery where a tumour was removed from the T12 vertebral body. She was commenced on dexamethasone and began to make an excellent neurological recovery. Biopsy demonstrated a plasmacytoma, an unusual feature of which was the high proliferation index of 70%

Six days later she again developed lower limb weakness and sphincter disturbance. Urgent MRI spine revealed there had been a substantial increase in the volume of an epidural mass lying posterior to the cord from T10 to L1. Note was also made of foci of abnormal signal in many of the other vertebral bodies. She underwent further decompression of the spinal cord followed by radiotherapy to the thoracolumbar spine, (20 Gy) in five fractions. Further investigations confirmed a diagnosis of MM: skeletal survey demonstrated lytic lesions in the pelvis, femora and skull. Serum protein electrophoresis revealed an IgG lambda paraprotein (11 g/l) and Bence Jones proteinuria was also detected of 0.09 g/l. Trepine biopsy demonstrated 5% lambda light-chain restricted plasma cells. Albumin was 35 g/l, beta-2-microglobulin 1.7, and renal function, calcium and full blood count were all normal prior to surgery.

She commenced chemotherapy with two cycles of idarubicin and dexamethasone with minimal response and then received second line chemotherapy, ESHAP (etoposide, cisplatin, cytarabine, methylprednisolone). Repeat MRI after the second cycle showed a partial response. Allogeneic bone marrow-transplantation was not considered at this time in view of her poor performance status and lack of a HLA-matched sibling, so she proceeded to high-dose therapy with peripheral blood stem cell rescue. Three

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Fig. 1 MRI spine showing collapse of T12 vertebra with associated cord compression

months after treatment her paraprotein had fallen to an unquantifiable level. With intensive physiotherapy, she also made an excellent functional recovery and 6 months after high-dose treatment was walking independently. Unfortunately, just 10 months following high-dose treatment the patient relapsed and is being treated with a combination of bortezomib and dexamethasone.

As with any other malignancy presenting during pregnancy, a key issue is necessity for urgent treatment and the risks of withholding such treatment to allow the fetus to mature to a gestation of viability. In many cases, MM is an indolent disease at least initially, and treatment can often be deferred for a number of months to allow fetal maturation

as was the case in some of the previous reports of MM in pregnancy [2]. In contrast, our patient needed emergency surgery at 32 weeks gestation delivering a healthy baby. Our patient developed an aggressive form of MM underlined by the high proliferation fraction of the plasma cells in the biopsy specimen, a feature associated with a poorer prognosis. Whether pregnancy-related factors contributed to the aggressive nature of our patient's disease is unclear. Both interleukin-6 and insulin-like growth factor-1 (IGF-1) promote the survival of malignant plasma cells and intriguingly, raised serum levels of these cytokines have been reported in pregnancy [3, 4]. In summary, we report the rare occurrence of spinal cord compression secondary to MM during the third trimester of pregnancy in a young female patient.

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