

Reviewing the current management of Neurofibromatosis type 1 patients in pregnancy. Do we scan? Can we spinal?

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Introduction

Neurofibromatosis type 1 (NF1) is a common autosomal dominant condition affecting approximately 1 in 3000 individuals globally, with huge variability in clinical manifestaons (1). Potential neurological malformations are of concern to the anaesthetist, due to increased risk from neuro-axial anaesthesia (NA). In a recent study, NF1 sufferers had a 39.6% prevalence of neuroforaminal tumours (2). We evaluated peripartum anaesthetic management of women with NF1, including use of neuraxis imaging.

Methods

Following Caldecott Guardian approval, we searched our electronic database for women who had given birth between 9/2022 and 12/2024 with a coded diagnosis of NF1. Of eleven identified, one was excluded as genetic testing was inconclusive. Ten records were reviewed to establish if

- An anaesthetic review had taken place during pregnancy
- Results of spinal imaging were available (taken either before or during pregnancy)
- General anaesthesia or NA was performed during labour

References

1) Konstantinos K, Asimakis K and Stavros S, Neurofibromatosis type-1 and pregnancy a review, Obstetric and gynaecological imaging, 2021, 1:39-48

2) Well L, Careddu A, Stark M et. al., Phenotyping spinal abnormalities in patients with Neurofibromatosis Type 1 using whole body MRI, Sci-Rep, 2021, 16889

Results

Of women requiring anaesthetic involvement for NF1 in pregnancy, 80% were seen in a consultant-led obstetric anaesthetic clinic. The availability of investigation and anaesthetic interventions are detailed in table 1.

	Seen in obstetric anaesthetic clinic	MRI spine imagine within 5 years	MRI spine imaging this pregnancy	NA Anaesthesia performed	GA performed
Out of 10 women identified	8	4	4	4	5

Discussion and Recommendations

The lack of national guidance regarding requirements for neuraxis imaging prior to neuro-axial anaesthesia is contributing to great variation in antenatal and intrapartum care of women with NF1. In collaboration with our regional NHSE highly specialised service for complex NF1 patients the following recommendations are made for NF1 in pregnancy

- 1. Antenatal obstetric anaesthetic clinic referral for all women with a diagnosis of NF1
- 2. If pre-existing imaging is normal and the woman is asymptomatic, no repeat imaging is needed
- 3. Perform neuraxis imaging if any concerning signs or symptoms are present.

Although there is a correlation between spinal abnormalities and pain or loss of motor function / sensitivity symptoms are not always present (2). Anaesthetists may choose to ensure all women with NF1 have a record of neuraxis imaging so as to enable informed decision making and consent for procedures.