

Update on ESPR Pediatric Post Mortem Imaging - a minimum standard protocol

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PM task force.

Introduction

- Aim
 - To establish current use of post mortem imaging
 - To assess the number of centers using the technique
 - To assess the type of use
 - Routine
 - Ad hoc
 - Clinical
 - research

Overall Aim

- To establish protocol for PMMR imaging for pediatric cases.
- To establish a minimum accepted protocol

Data collection Methods

- Current data based on task force members
- Additional information from published articles
- E mail request for information:
 - on use of PM for imaging
 - Sequences chosen
 - Time taken
- Second e mail questionnaire for additional details

Results

- 14 centers responded
- 12 centers performed post mortem MRI (10 PM CT as well)
- Geographically widespread including
 - Canada
 - Australia
 - Switzerland
 - Netherlands
 - UK

Sequences

- ALL USE:
 - T2 Axial, coronal and sagittal OR 3D T2
 - Brain and body
 - T1 sequence and a lot opt for 3D T1.
- Literature review suggests ALL do T2, most do T1

Additional Sequences

- CISS
- DWI
- SWI
- Flair

Slice thickness

- Sequence dependent
 - 2mm, 3mm or 4mm
- All aim for the thinnest for the sequences and body size
 - Literature review- most centers aim for 2-3mm

Coil

- Fit to body area imaged
 - Extremity
 - Head
 - Cardiac
- Literature review – choose a coil to fit.

Scanner strength

- 1.5T and 3T
 - Literature review Majority 1.5T some 3T and some 7T

Time taken

- Major factor in sequence choice
- 2 centers stated that the MaRIAS study sequences were too time consuming for clinical use.
 - Literature review – variable reported from 30 mins. to 1.5 hours or longer.

Additional data required

- Time for the protocols
- Reason for sequence choices
- Restrictions by local rules
- Restrictions by cost
 - Literature review
 - Costs often mentioned and all cheaper than autopsy

Image acquisition & Funding

- No center had a fully funded service
 - UK post mortem funding
 - Most covered in house
- Imaging performed by radiographers/technologists (1 center by radiologist)

Reporting and training

- All reported by radiologists
- Some double reported
- None of the respondents had had formal training in PMMR
- 2-18 years experience
- Numbers per year ranged from 5 -120
- 4 increasing, most stable

Service Need

- Most requests came from O&G
- Feedback to parents via requesting clinicians
- Occ. performed at parental request.
- Some done as part of the autopsy service
- Some as a separate service
- None done at the request of the state
- 5 centers have coroner acceptance, the rest unsure.

Case referral pattern

- All centers:
 - Stillbirth
 - TOP
 - Fetal cases
 - Neonatal cases
- 3 centers pediatric cases

Protocol

- All thought standardisation would be good
- Minimum standard protocol
- Adaptation to local needs
- Regular updates based on published data
- Regular review and dissemination
 - Literature review – very little service provision reported. Majority research publications.

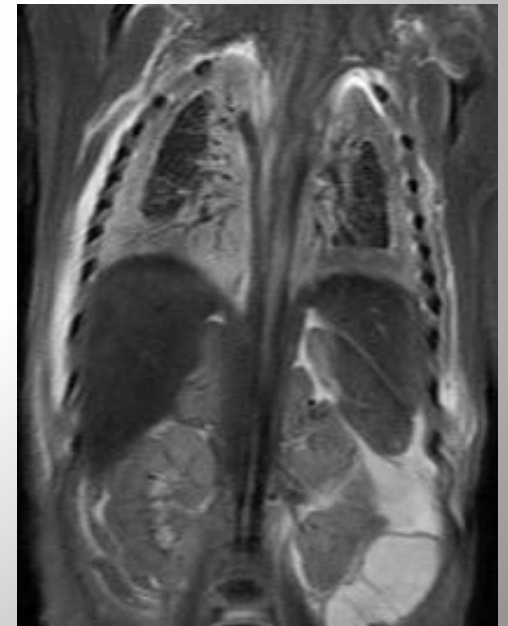
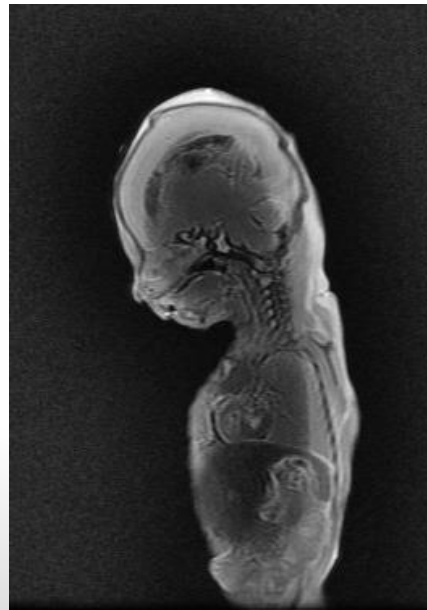
Suggested Min. Standard Protocol

- T2 W in all 3 orthogonal Planes
- T1 volume
- Slice size 2mm-5mm depending of body size.
- Smallest coil to cover the area concerned.
- 1.5T or 3T scanner.

- Additional sequences depend on local choice, time, funding, clinical concerns.

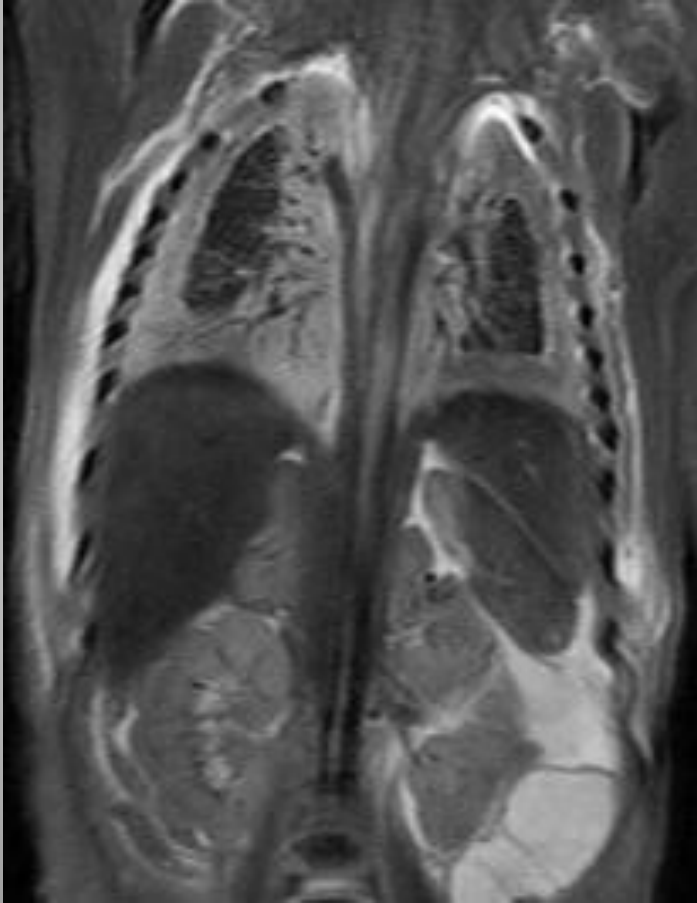
Comments

- International video link
- Sharing of difficult cases
- Sharing of learning points



Thank You

PM MR update



- Minimum protocol preferred.
- Minimum will be suggested.
- Funding
- Training
- Expansion of PM MR

- E Whitby of behalf of the taskforce.