THE REPRODUCIBILITY OF CARDIAC T2* MEASUREMENT IN THALASSEMIA MINOR USING TWO DIFFERENT SOFTWARE PACKAGES
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PURPOSE

• T2* Magnetic Resonance Imaging (MRI) is valuable for non-invasive iron quantification
  • Avoids costly biopsy
  • Available from multiple PACS: GE ReportCard, Circle CVI

• Algorithm to determine iron overload is identical between software programs.

• However, there are slight differences in the measuring and tracing tools between programs

• Are the results between different programs comparable and **interchangeable**?
MATERIALS/METHODS

• Retrospective chart review: N=105
• Inclusion: ALL iron quantification studies from 2011-2018 at UPMC Children’s Hospital
• Exclusion:
  • 4 due to excessive motion
  • 1 due to
• Software programs:
  • GE ReportCard (version 4.4.4_FW4510)
  • Circle CVI42 (version 5.9.3)
• Statistics (SPSS v. 25):
  • Cronbach’s Alpha
RESULTS

• Demographics: Age: 14.97±7.3, 72% Female

• Average T2*
  • GE Report Card: 35.94±11.66
  • Circle CVI42: 36.95±11.68 ms
  • Difference: 3.29±2.49 m

• Reliability:
  • 0.971 (p<0.001)
CONCLUSION

• This study found that T2* measurements using GE ReportCard and Circle CVI42 were consistent across the two packages in quantifying iron deposition in the heart.

• Measurements done on either software package can be reliably used to compare iron deposition over time, even if prior measurements were done using the other tool.