TITLE: Computed Tomography Guided versus Ultrasound Guided Renal Biopsy: Comparative Evidence

DATE: 25 February 2013

RESEARCH QUESTIONS

1. What is the comparative evidence regarding the quality of the sample retrieved using computed tomography versus ultrasound guided renal biopsy?

2. What is the comparative evidence regarding the diagnostic accuracy of computed tomography versus ultrasound guided renal biopsy?

3. What are the evidence-based guidelines regarding the use of computed tomography or ultrasound-guided renal biopsy?

KEY MESSAGE

One non-randomized study regarding the comparative diagnostic accuracy and quality of sample retrieved using computed tomography versus ultrasound guided renal biopsy was identified. No relevant evidence-based guidelines were identified.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2013, Issue 1), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. For question one and two, no filters were applied to limit the retrieval by study type. For question three methodological filters were applied to limit retrieval to guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2003 and February 10, 2013. Internet links were provided, where available.
The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

One non-randomized study regarding the comparative diagnostic accuracy and quality of the sample obtained using computed tomography (CT) versus ultrasound (US) guided renal biopsy was identified. No relevant health technology assessment reports, systematic reviews, meta-analyses, randomized controlled trials, or evidence-based guidelines were identified. Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

The included non-randomized study comparing the diagnostic yield and need for re-biopsy of samples collected via CT- versus US-guided biopsy found:

- CT-guided biopsy samples had a higher number of glomeruli (23.34 ± 13.42 vs. 10.28 ± 6.85),
- CT-guided biopsy was associated with a 100% diagnostic rate (versus 94.8%),
- there was no need for re-biopsy in CT-guided samples.¹

The authors concluded that CT-guided biopsy was a more effective diagnostic tool, especially in patients with suspected focal disease. No relevant evidence-based guidelines were identified.
REFERENCES SUMMARIZED

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses
No literature identified.

Randomized Controlled Trials
No literature identified.

Non-Randomized Studies


Guidelines and Recommendations
No literature identified.

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APPENDIX – FURTHER INFORMATION:

Randomized Controlled Trials – CT only

   PubMed: PM23294600

Non-Randomized Studies – no comparison between CT and US

   PubMed: PM21822769

Review Articles

   PubMed: PM20489082

Additional References

   PubMed: PM20419303

   PubMed: PM18362552