

Zapping Tumours: Irreversible Electroporation for Prostate Cancer: A Narrative Review

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Reference list

Introduction

- Low- to intermediate- risk prostate cancer can be treated effectively through focal therapy
- Irreversible electroporation (IRE) is a new focal therapy modality for localized prostate cancer
- IRE utilizes pulses of electricity to ablate cancer tissue
- Early research suggests that IRE offers good oncological outcomes with low risk of functional loss

Aim

Summarize the latest evidence available about the implementation of IRE for low- to intermediate-risk prostate cancer.

Methods

Search Strategy

- Irreversible electroporation OR electroporation OR NanoKnife AND Prostate Cancer
- /Electroporation and /Prostatic Neoplasms
- Medline and EMBASE databases
- Records published from 2011 to 2021

Results

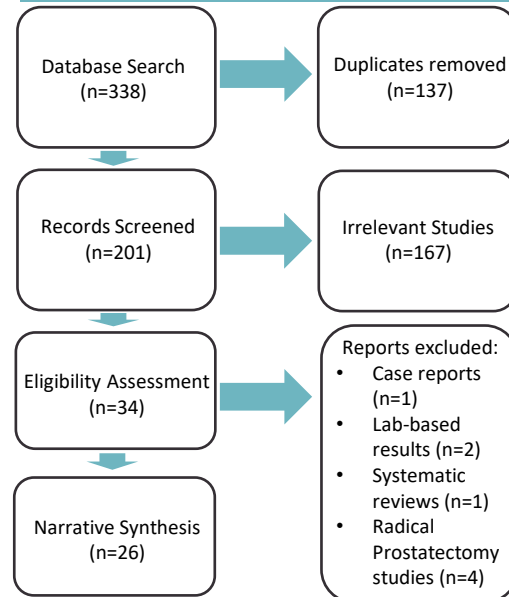


Figure 1 Flowchart of study selection process

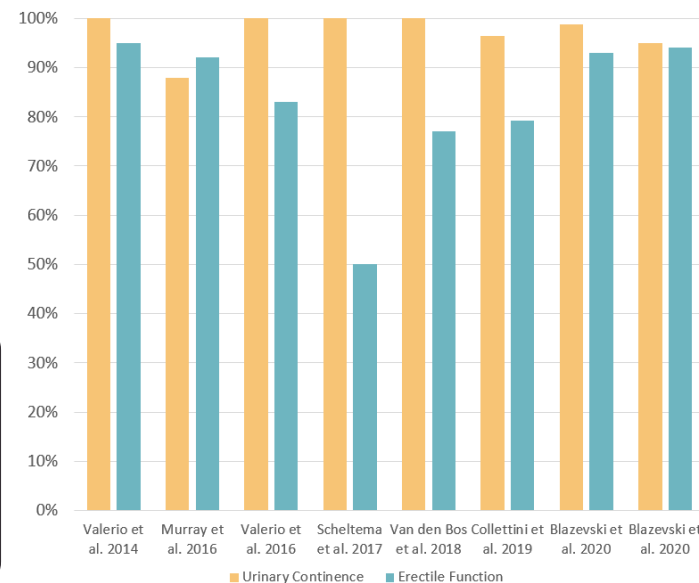


Figure 2 Functional outcomes of IRE

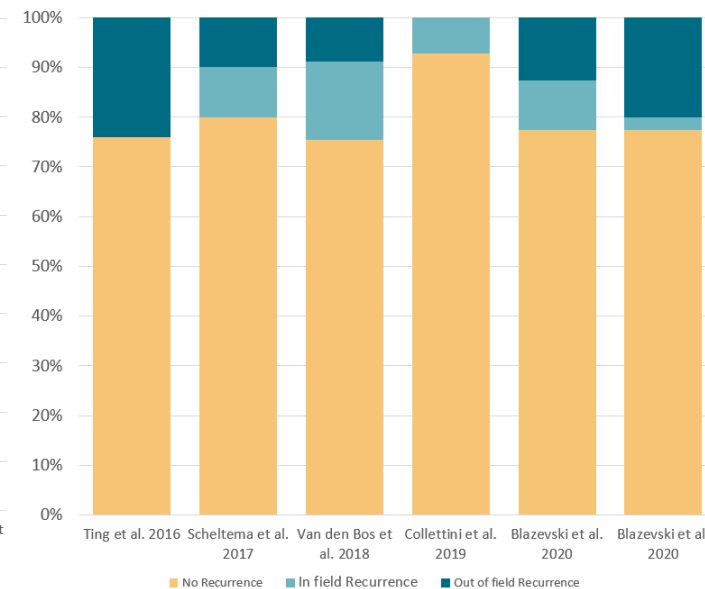


Figure 3 Oncological outcomes of IRE

Key Findings

- IRE has good post-treatment functional outcomes, with high levels of continence and potency preservation at 6- and 12-months follow-up
- Oncological outcomes are good, with low in field and out of field recurrence rates
- Generally, patients experience mild adverse effects post-IRE such as mild hematuria, dysuria, urinary tract infections and temporary incontinence
- MRI has potential as a follow-up tool to detect recurrence post-IRE, but requires larger studies to confirm

Conclusion

IRE is a safe procedure that provides **excellent oncological outcomes with good functional preservation.**

Larger scale Phase III trials are required to consolidate the long-term effects of IRE