

Septic Arthritis Following Radiologically Guided Joint Injection

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Introduction

Septic arthritis (SA) causes undoubted morbidity and ultimately mortality⁵. Consequently, this carries grave significance to patients and profound medico-legal implications to health professionals when cases are iatrogenic. Following local cases of SA from radiologically-guided joint injections, we aimed to compare our performance with the available standards and target improved services.

Three cases were identified from the departmental logbook. For complications stemming from SA, each patient required:

- ITU admission
- Multiple surgical interventions
- Prolonged hospital admissions

Long-term sequelae included:

- Renal failure
- Cardiac arrhythmias
- Thromboembolic disease
- Distant infections
- Chronic pain



A simple search on the trust radiology software provided the total number of radiologically-guided joint injections. These were sub-categorised into six 12 month blocks, using March 1st as a cut-off.

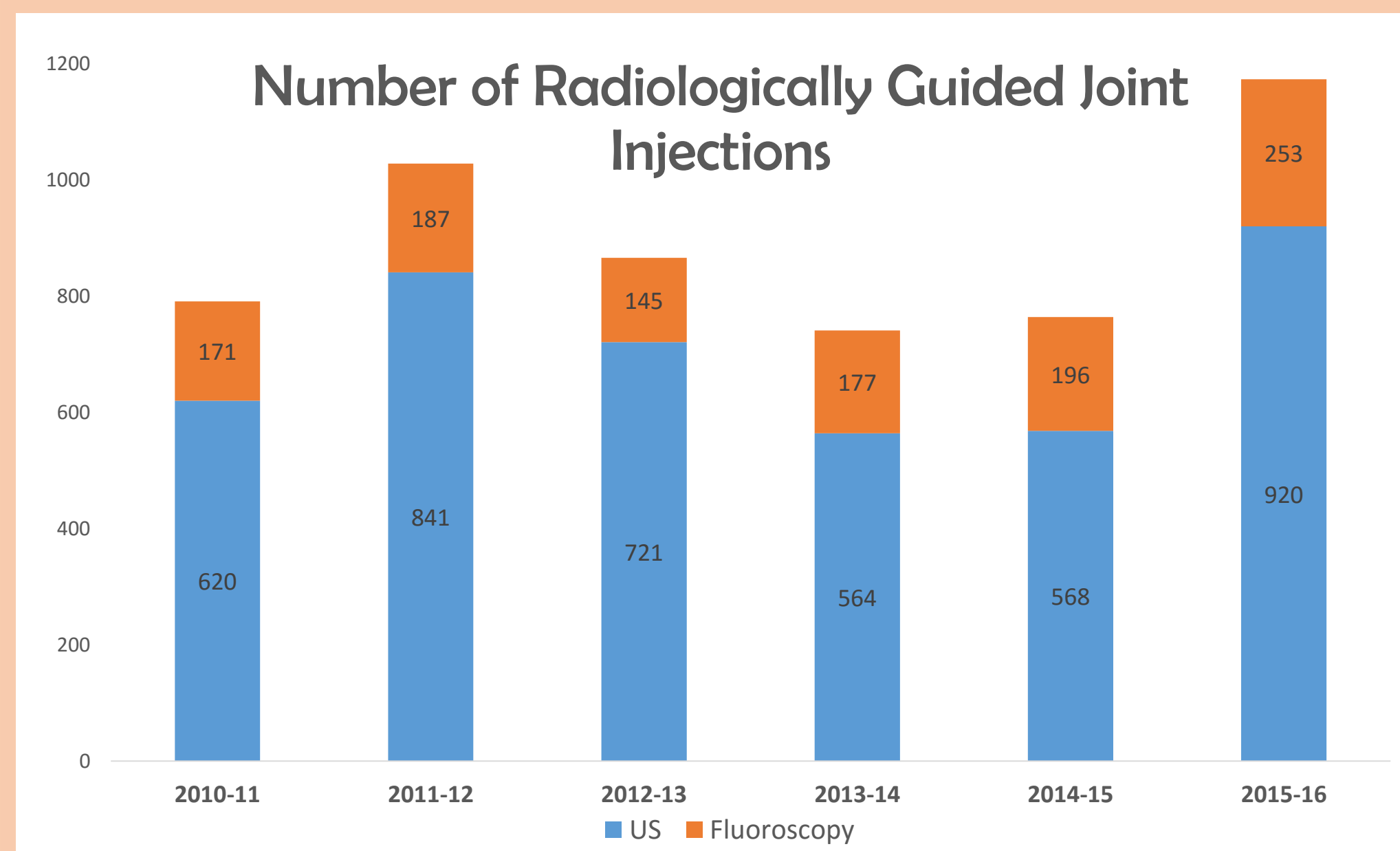
Literature Standards

Limited literature exists concerning the risk of SA following joint injection.

Earlier papers (1969-1991) quote a risk of 1:20,000-500,000¹⁻³ and the Australian health service 1:20,000-75,000⁴. However, the most robust source from 2008 (a study examining all cases of septic arthritis in Iceland between 1990-2002) determines a risk of 1:2,700; with 17.9% of SA cases originating from arthrocentesis⁵.

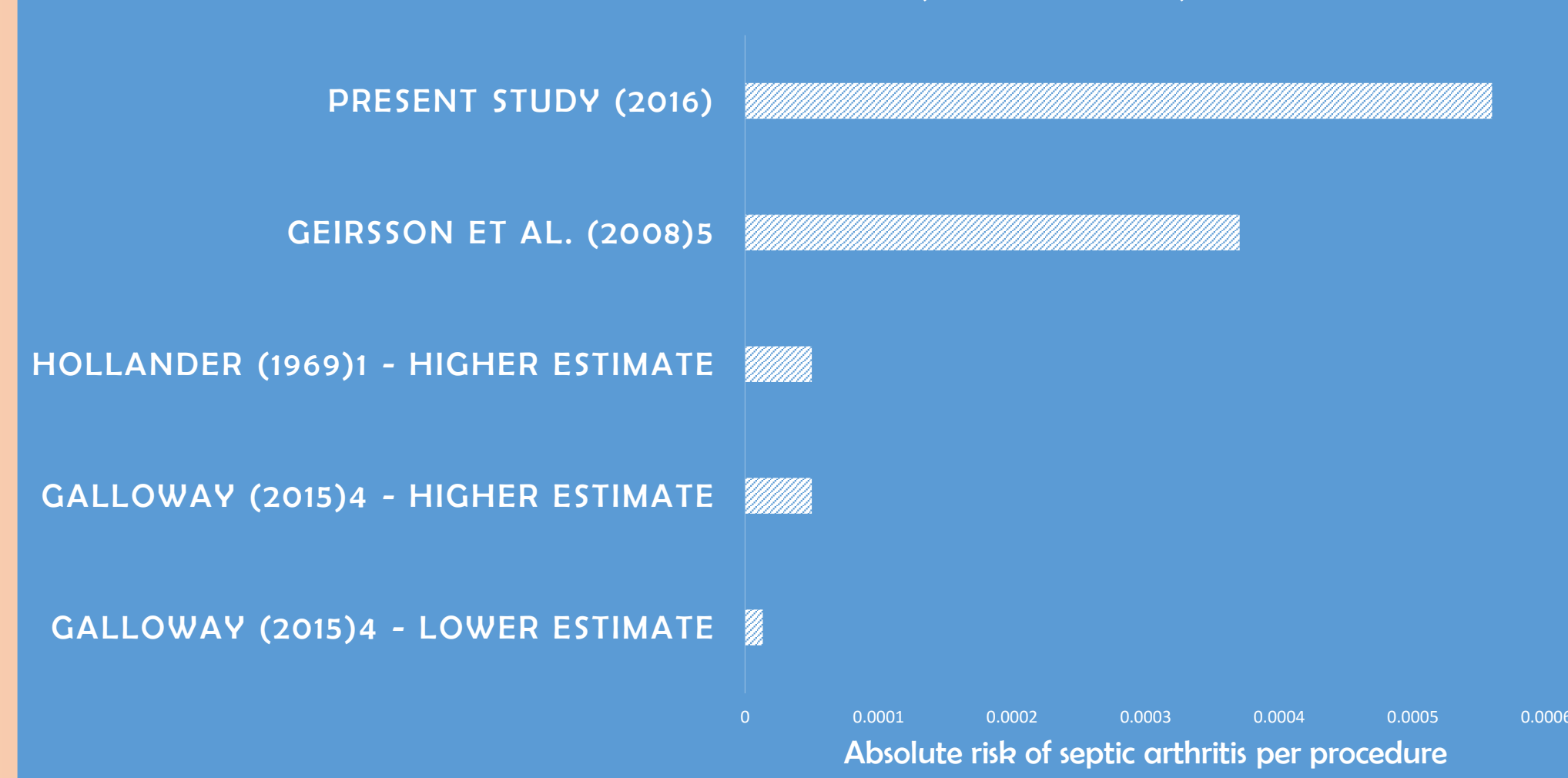
Results

Over the past 6 years, 5,363 joint injections were performed in the Radiology Department of our 410-bed District General Hospital, under both ultrasound and fluoroscopic guidance.



Using a 6-year cut-off, this generates a 1:1788 risk of SA – considerably higher than the literature.

A COMPARISON OF RISK OF SEPTIC ARTHRITIS FOLLOWING JOINT INJECTION



Discussion

The key findings of our study were:

- A higher infection rate than those reported in the available literature
- Each SA case developed considerable medical complications

Questions were raised at multi-disciplinary meetings over:

- The suitability of available facilities
- Adequate staff training
- Implications on future joint-replacement surgery, as active infection is a strong relative contraindication

However, positive findings included:

- Early involvement of Microbiology, utilising positive blood cultures and appropriate sensitivities
- No cases originating from GPs performing 'blind' injections

Debate exists in the literature concerning the optimal choice of sterilising agent, though chlorhexidine, alcohol wipes and iodine each give 'satisfactory' results⁵. Importantly, it takes 1 min for iodine to 'take effect' with chlorhexidine superior for sterilising needle tips⁶ and preventing contamination of blood cultures⁷.

Clearly, standards must be improved locally, and with the above learning points implemented we propose to re-audit.

References

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