

# Are cardiac surgeons the only common denominator between surgical site infections and poor compliance to antibiotic prophylaxis in cardiothoracic surgery?

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## Background

▪Surgical site infections[SSI] are associated with complications, increased mortality, length of stay and associated costs. Literature/ guidelines suggest that optimal prophylactic antibiotics reduce risk of postoperative infections.

▪Lancashire cardiac centre[LCC], a tertiary unit within Blackpool Teaching Hospitals, serves a population of 1.5 millions population in the northwest England and undertakes 1800 cardiothoracic[CT] surgeries annually.

▪Blackpool Teaching Hospitals operates a successful HAI programme with high emphasis on antibiotic stewardship.

▪Regular audits; HAI surveillance [incl.SSI surveillance] and resulting action plans inform fine tuning of local policies. We present findings from audit of a new antibiotic prophylaxis guidance in CTsurgery, introduced as a consequence of findings of SSI(incl postdischarge) surveillance in CT surgery.

▪Non compliance with policy in 48.2%[14] including no gentamicin use in 24%[7]; extended prophylaxis in 27.5%[8]; doxycycline use in 17%[5]; piperacillin-tazobactam use in 3%[1].

▪ SSI surveillance [including post discharge & 30days post surgery] Jan - Mar 2011 revealed a SSI rate of 9%[23] for 255 sternal and leg wounds.

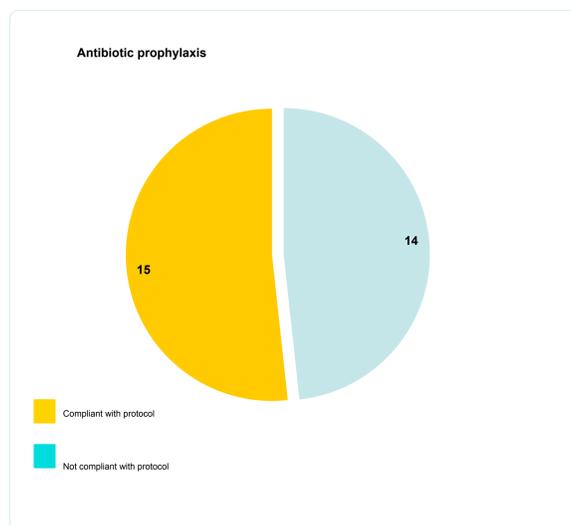


Chart I

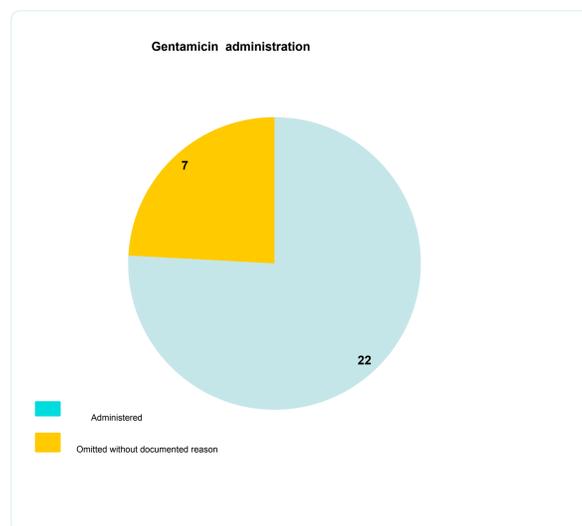


Chart II

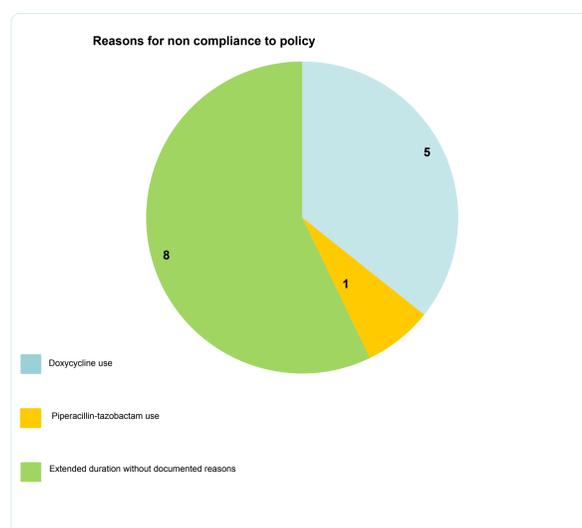


Chart III

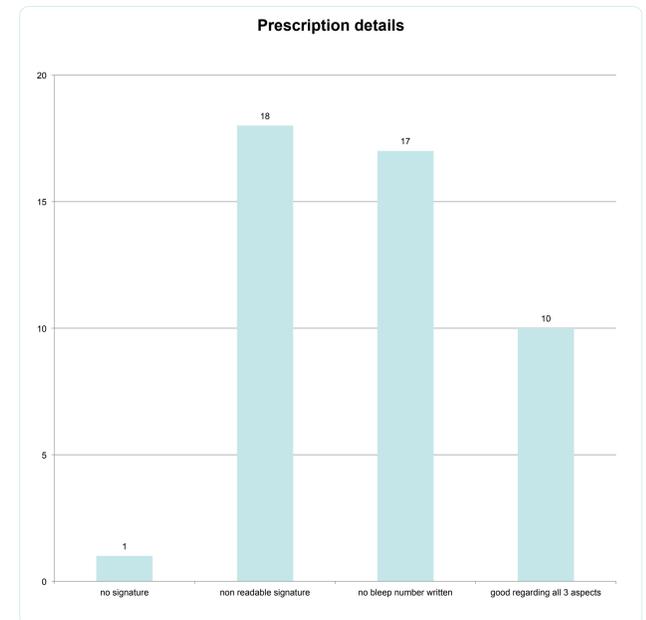


Table I

## Methods

▪Audit (all Cardiac/thoracic surgeries conducted over 1-week in Sept 2011) of compliance to a new antibiotic prophylaxis policy.

▪The new policy suggests use of Flucloxacillin or Teicoplanin, plus gentamicin at induction & cover 1st 24-h post surgery as opposed to previous practice of variable duration use of cefuroxime +/- Teicoplanin subject to surgeon variation.

▪Comprehensive SSI surveillance (sternal / leg wounds) in post CT surgery including post discharge, over Jan-Mar 2011, using health protection agency[HPA] criteria.

## Results

### Key findings from prophylaxis audit:

▪8-CT surgeons/9 anaesthetists involved in 29 CT surgeries[including 20 elective cardiac; 2 emergency open heart procedures, 6 thoracic and 1 epicardial pacing insertion via thoracotomy].

▪ Patients- 23 males/6 females; mean age 60.9yrs; Mean hospital stay 6d and no SSI during hospital stay.

## Conclusion

▪LCC is committed to reduce rates of SSI as a part of NHS quality initiatives to improve quality/ patient care. The comprehensive SSI surveillance earlier this year reported a rate of 9% [sternal / leg wounds] including post discharge.

▪Current audit has revealed issues including limited compliance to the new prophylaxis policy, poor documentation and gaps in the policy.

▪This has been used to inform the HAI programme within CT surgery and action planned.

## acknowledgment

▪We would like to thank the nursing staff in cardiac surgery intensive care unit and Mr. Shaun Rogers, the statistician in Blackpool Teaching Hospital for their precious and continuous help.

