

Antibiotic Prescribing in Colorectal Surgery

Sophie Barker (Pre-Registration Pharmacist), Kathy Gillespie (Supervisor)

Background

Invasive surgery often necessitates the use of antibiotics prophylaxis, to prevent surgical site infection and post-operative complications. Alongside the national guidance from CQUIN and NICE, internal guidance has been written to provide advice for antibiotic usage. These provide clear and evidence based choices, and are continually reviewed. This is key to countering the increasing prevalence of antibiotic resistance, and to improve patient outcomes.

Introduction

In 2019 a similar audit was completed within the trust looking at prescribing of prophylactic antibiotics within colorectal surgery and whether it complies with CQUIN guidance. Overall the adherence was good, at 87%. The opportunity arose to complete a the audit cycle and re-audit for two main reason- a recent change in gentamicin dosing, and also to comply with the CQUIN recommendations around colorectal surgery.

Methods

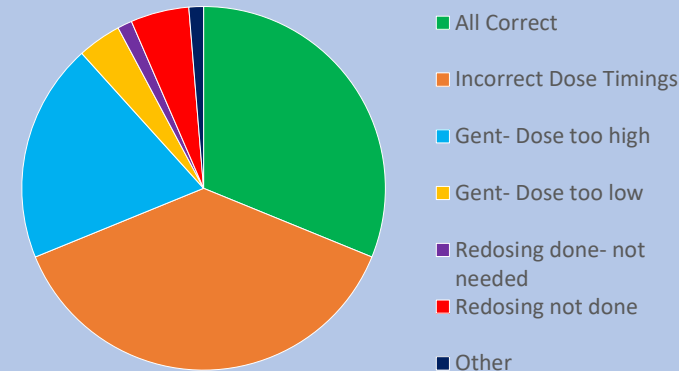
All the patient procedures are coded, and the data was collected from those coded for colorectal procedures undertaken between 1st July 2020 and 29th September 2020. The specific patient details were accessed using the patient's MRN, via the trust's electronic prescribing system, eRecord. The information collected was patient specific factors (Age, weight) and specifics around the procedure. These included length of surgery, antibiotic choice, timings and doses. This was then compared to the guidelines, to assess compliance.



	Gentamicin		Redosing	
	Dose too high	Dose too low	Indicated but not prescribed	Prescribed but not indicated
Number (N)	15	3	4	1
Percentage (N / correct antibiotic choice)	19.4%	3.9%	5.2%	1.3%

Results

Of the 138 colorectal surgeries coded, 107 fit the criteria for the audit. Of the 107 assessed, 72% (N=77) used the correct antibiotics. Of these 77, 69% (N=53) were completely correct, and followed the guidance- just under 50% of the surgeries assessed as a whole. For those that picked the correct antibiotics, some had additional concerns, as indicated in the graphs below:



Of the procedure assessed 13% (N=14) did not use antibiotics at all. The majority of these were examinations under anaesthetic (N=10) although there were several (N=3) that had no clear reason for non-use of antibiotics. In addition to this, 15% (N=16) used the incorrect antibiotics- either incorrect for the patient's age (N=10) or non-guideline (N=6).

Conclusions

Of the surgeries investigated, only around 50% followed the guidelines, a significant decrease when compared to the audit completed the year before. Either this indicates a lack of awareness around the correct use of antibiotics, or a lack of importance placed on keeping to these recommendations. A large factor could be the switch in Gentamicin dosing, as this represents a large proportion of the results. Although there is clear guidance, there is likely familiarity with the use of mg/kg in dosing, and this may affect the compliance. Therefore, an improvement could be to make it more easily accessible, or offer a brief teaching session on the current recommendation.

References

- <https://pubmed.ncbi.nlm.nih.gov/24817514/>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3881664/#:~:text=The%20fourth%20variab,e%20in%20SSI,develops%20infection%20after%2030%20days.>
- <https://www.england.nhs.uk/wp-content/uploads/2019/03/CQUIN-Guidance-1920-080319.pdf>
- <https://www.nice.org.uk/guidance/ng125/chapter/Recommendations#antiseptics-and-antibiotics-before-wound-closure>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5573035/>
- [Comparing the adherence to antimicrobial guidelines in adult elective colorectal and neurosurgery, Jennifer Jackson, 2020](https://www.nice.org.uk/guidance/ng125/chapter/Recommendations#antiseptics-and-antibiotics-before-wound-closure)
- <https://policies.app/cgdocs/Antimicrobialguidelinesforadultgeneralsurgery202004b.pdf>
- <https://policies.app/cgdocs/Gentamicinsurgicalprophylaxis202009.pdf>
- <https://policies.app/cgdocs/Intra-OperativeRe-dosingAntibiotiProphylaxis201705.pdf>