

## ABSTRACT

**Background:** Antibiotic prophylaxis is important in the prevention of surgical site infection (SSI). However, the inappropriate use of antibiotic can trigger the bacteria that resistant to antibiotic. Transanal Endorectal Pull Through (TEPT) is one of the surgical procedure for Hirschsprung's disease (HSCR) which is highly recommended to be given antibiotic prophylaxis. The pattern of antibiotic usage in HSCR cases in Indonesia especially pediatric patients undergoing TEPT procedure is still not well known. Therefore, evaluation of current antibiotic prophylaxis among those patient is needed.

**Objective:** This study was aimed to evaluate the appropriateness of antibiotic usage in surgical procedure for Hirschsprung's disease (HSCR) with TEPT procedure at Pediatric Surgery Ward Dr. Sardjito Hospital.

**Metode:** The design of the study was observational cross-sectional. The subjects included were patients with age less than 18 years old that underwent surgical procedure for Hirschsprung's disease (HSCR) with TEPT procedure and data was collected from medical record of the patients since 2014 until 2018. The guidelines used as comparison in this study were from Ministry of Health of Indonesia and American Society of Health-System Pharmacists (ASHP).

**Result:** A total of 25 patients were involved in this study, 24 patients were given antibiotic prophylaxis with the most common antibiotic used was cefazoline. The appropriateness of antibiotic prophylaxis based on Indonesian Ministry of Health guideline was 50% and ASHP guideline was only 4%. Type of inappropriateness according to Gyssens criteria included IVa (choosing ineffective antibiotic, 50%), IVd (choosing extended spectrum, 50%), IIa (not appropriate dose, 46%), and I (not appropriate administration time, 17%). Bivariate analysis showed that inappropriate antibiotic prophylaxis usage was not associated with age ( $p=1,000$ ;  $p=1,000$ ), gender ( $p=0,411$ ;  $p=1,000$ ), dan duration of the surgical procedure ( $p=0,111$ ;  $p=0,400$ ). A total of 24 patients were still given postoperative antibiotic.

**Conclusion:** The appropriateness of antibiotic prophylaxis in patient with surgical procedure for Hirschsprung's disease (HSCR) with TEPT procedure at Pediatric Surgery Ward Dr. Sardjito Hospital according to Ministry of Health Indonesia guideline was good enough, while the appropriateness according to ASHP guideline was sti;; very low. Almost all of the patients were still given postoperative antibiotic.

**Keywords:** antibiotic prophylaxis, postoperative antibiotic, Hirschsprung's disease, Transanal Endorectal Pull Through, appropriateness

## INTISARI

**Latar Belakang:** Antibiotik profilaksis merupakan hal yang penting dalam pencegahan infeksi luka operasi (ILO). Akan tetapi, penggunaannya yang kurang tepat dapat memicu munculnya bakteri yang resisten terhadap antibiotik. *Transanal Endorectal Pull Through* (TEPT) merupakan salah satu prosedur operasi penyakit *Hirschsprung* (HSCR) dimana sangat direkomendasikan untuk dilakukan pemberian antibiotik profilaksis. Pola penggunaan antibiotik pada kasus HSCR di Indonesia terutama pasien anak yang menjalani prosedur TEPT masih belum diketahui dengan baik. Maka, evaluasi penggunaan antibiotik pada pasien tersebut perlu dilakukan.

**Tujuan:** Penelitian ini bertujuan untuk mengevaluasi ketepatan penggunaan antibiotik pada operasi penyakit HSCR dengan tindakan TEPT di Bangsal Bedah Anak RSUP Dr. Sardjito.

**Metode:** Penelitian ini adalah studi potong lintang. Subjek penelitian adalah pasien usia kurang dari 18 tahun dengan operasi penyakit HSCR dengan tindakan TEPT dan data diambil dari rekam medis pasien sejak tahun 2014 hingga 2018. Penelitian ini mengacu pada pedoman Kementerian Kesehatan Indonesia dan American Society of Health-System Pharmacists (ASHP).

**Hasil:** Sejumlah 25 pasien terlibat dalam penelitian ini, 24 pasien diberikan antibiotik profilaksis dengan jenis yang paling banyak digunakan adalah sefazolin. Ketepatan penggunaan antibiotik profilaksis berdasarkan pedoman Kementerian Kesehatan Indonesia sebesar 50%. Ketepatan penggunaan antibiotik profilaksis berdasarkan pedoman ASHP hanya sebesar 4%. Jenis ketidakrasionalan menurut algoritma *Gyssens* yaitu kategori IVa (ada antibiotik yang lebih efektif) sebanyak 50%, IVd (ada antibiotik spektrum lebih sempit) sebanyak 50%, IIa (dosis) sebanyak 46%, dan I (waktu) sebanyak 17%. Penggunaan antibiotik profilaksis yang tidak sesuai berdasarkan analisis bivariat tidak berasosiasi dengan usia ( $p=1,000$ ;  $p=1,000$ ), jenis kelamin ( $p=0,411$ ;  $p=1,000$ ), dan lama operasi ( $p=0,111$ ;  $p=0,400$ ). Sejumlah 24 pasien diberikan antibiotik pascaoperasi.

**Kesimpulan:** Ketepatan penggunaan antibiotik profilaksis pada pasien operasi HSCR dengan tindakan TEPT di Bangsal Bedah Anak RSUP Dr. Sardjito menurut pedoman dari Kementerian Kesehatan sudah cukup baik, sedangkan ketepatan menurut pedoman dari ASHP masih sangat rendah. Hampir semua pasien masih diberikan antibiotik pascaoperasi.

**Kata Kunci:** antibiotik profilaksis, antibiotik pascaoperasi, penyakit *Hirschsprung*, *Transanal Endorectal Pull Through*, ketepatan