

## 2-Dimensional Transition Metal Dichalcogenides for Photodetection and Biosensing Endoscopies After a 5-Year Follow-Up on Central Venous Access Receiving Home (HPN) Patients with Prophylaxis at Tertiary Healthcare Facility

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**Abstract :** Objective and Study: There are no established guidelines for antibiotic prophylaxis in children with central venous catheters (CVCs) on home parenteral nutrition (HPN), leading to varying practices across UK Centres. We hypothesize that children with intestinal failure are at increased risk for bacteraemia due to altered anatomy, dysmotility, inflammation, biofilm formation in long-term CVCs, and the use of central lines during procedures. Given the bacteraemia rates of up to 8% in upper and 25% in lower endoscopy for adults without central lines, we argue that prophylactic antibiotics are reasonable, given the increased risks faced by this high-risk group of children. Methods: We conducted a five-year review of patients with central venous access receiving home parenteral nutrition (HPN) who underwent endoscopies with antibiotic prophylaxis at our center (tertiary). We documented and analyzed post-procedure infections and their associated risk factors. Results: A total of 15 patients on HPN underwent 29 endoscopic procedures, including 4 upper, 9 combined upper and lower, and 16 combined upper, lower, and ileoscopy. Confirmed infection rates remained at 0% up to 28 days post-procedure. The agreed-upon prophylaxis regimen was implemented, with ciprofloxacin and metronidazole administered as the primary antibiotics. Notably, only 51.7% of patients received a peripheral cannula despite recommendations to avoid central line use during anesthesia, and 20.6% had small intestinal bacterial overgrowth. Conclusions: This study is the first to investigate post-endoscopy infection rates in pediatric patients on HPN. Despite a small sample size, we observed a 0% infection rate, significantly lower than reported rates in adults. These findings suggest that further research is warranted to explore the implications of antibiotic prophylaxis in this unique patient cohort and to establish guidelines that may enhance patient safety during endoscopic procedures.

**Keywords :** post endoscopy infections, central venous access, home parenteral nutrition, intestinal failure

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