Buprenorphine's analgesic effect is due to partial agonist activity at mu-opioid receptors (ORs), and has very strong receptor affinity. It's also a kappa-OR antagonist. The unique activity of the drug as a partial agonist/antagonist at varying receptor sites, means that above a certain dose, employing other opioid receptor agonists as breakthrough (BT) analgesia, may perceptibly be ineffective.

Studies have looked at effectiveness of morphine sulphate and other mu agonists for episodic BT pain in patients receiving transdermal (TD) buprenorphine. With typical clinical doses, it is possible to use morphine sulphate or other mu agonists without loss of analgesia. Antagonism is felt to only be a concern at very high doses. The usual doses in practice, as cited by the Palliative Care Formulary (PCF), range from 10–40 mcg/hour. Evidence suggests the phenomenon may become relevant at doses exceeding approximately 66 mcg/hour.

This is poorly studied in children to date.

Aims

- The study aim was to ascertain, of children under review by Specialist Palliative Care (SPC) in a Paediatric Hospital, who were prescribed TD buprenorphine as their background analgesia: what dose(s) were used; BT analgesia; whether above cut-off dose cited, BT analgesia changed.
- With respect to our paediatric population on the higher doses of buprenorphine, to determine if there was loss of analgesic benefit with use of opioid agonist BT.

Methods

- SPC brainstorming session.
- Literature review.
- Liaising with in-house pharmacist in relation to local prescribing trends, Meeting with SPC pharmacist.
- Data generated from pharmacy records detailing patients in question.
- Demographics collected/kardexes studied.
- Chart review with on doses above 65 mcg/hr.
- Data was collected including PRN opiate choice/dose/changes to PRN opioid corresponding with up-titration of the buprenorphine, other non-opioid analgesics/pain scores.

Results Of 15 patients, one buprenorphine dose exceeded named cut-off dose. Oxycodone was breakthrough analgesic, from which he derived benefit. He had experienced opioid induced hyperalgesia on TD fentanyl, prompting rotation to buprenorphine.

Conclusions This study revealed one patient on agonists where they may not be advisable. He suffered no ill consequence. The review, albeit small patient numbers, was an insight into our prescribing in relation to buprenorphine. It may remind us to consider the mode of activity of commonly used medications in our practice, explain why in some instances, the BT medication of choice is not proving effective.

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BLOOD CULTURE IN CHILDHOOD COMMUNITY-ACQUIRED PNEUMONIA- WHEN SHOULD WE DO IT?

Bazlin Ramly, Animitra Das, Juliette Lucey, Navdeep Kaur Brar*. *University Hospital Waterford, Waterford, Ireland*

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Introduction It is recommended that blood cultures are collected from those with moderate to severe community-

acquired pneumonia (CAP)¹. Positivity of blood culture in childhood CAP is often quoted as <10%² and blood cultures are considered to be of limited utility as the organisms are rarely identified. Also, positive results often do not alter the choice of management. *Streptococcus pneumoniae* is cultured in the blood in <5% of cases of pneumococcal CAP cases³. Thus, this study is done to prove that we should not routinely be doing blood cultures in all children with CAP as it is more likely to cause an unnecessary burden to the care of the children.

Methods The total numbers of blood culture collected from paediatric age group patients were obtained from microbiology laboratory quality officer, and they were subdivided into those taken in the emergency department, paediatric assessment unit and also the general paediatric ward. Positive results were looked at, and the diagnoses were extracted from the patients' charts to see any of those were diagnosed as community-acquired pneumonia.

Results In total, from 1st January 2018 till 31st December 2018, there were 934 blood cultures taken from paediatric age group patients. There were 398 (42%) taken in general paediatric ward, 215 (3%) taken in paediatric assessment unit and 321 (34.4%) taken in the emergency department. However, there were only 40 (4.5%) positive blood cultures out of 934 samples sent. Eleven out of 40 (27.5%) positive cultures were treated as true positive cultures. Only one out of the eleven patients was diagnosed with *Streptococcus pneumoniae* CAP sepsis, and the patient has a background history of Trisomy 21. Most of the positive cultures were contaminants, and two were from patients diagnosed with CAP.

Conclusion Blood cultures should not be routinely taken from patients diagnosed with community-acquired pneumonia as there is a high prevalence of viral respiratory infection in children, and the probability of false-positive blood cultures that may lead to unnecessary repeat cultures, hospitalisation and parental distress. Special considerations should be taken into account when deciding to collect blood cultures from patients diagnosed with CAP such as from children with long-standing comorbidities that may complicate the course of the illness or children who presented with evidence of sepsis or complicated illness. More importantly, guidelines on when blood culture is necessary and when it should be repeated are crucial in ensuring a better quality of care.

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THE MODIFIED SARNAT SCORE IN THE ASSESSMENT OF NEONATAL ENCEPHALOPATHY: A QUALITY IMPROVEMENT INITIATIVE

Bronwyn Power*, Julie McGinley, John F Murphy. *The National Maternity Hospital, Holles Street, Dublin, Ireland*

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Introduction 'Neurophobia', the fear of clinical neurology by physicians, is widely acknowledged in the literature. The Sarnat Score is essential for the clinical designation of the severity of encephalopathy in neonatal patients. A recent review of therapeutic hypothermia cases (n=140) in the Republic of Ireland (2016–2017), highlighted incomplete documentation of the Sarnat Score in neonates with encephalopathy. On the first day of treatment, posture, tendon reflexes, tonic neck and moro reflexes were undocumented for 70%,