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### PATIENT PERSPECTIVES ON SWITCHING TO AN INFLIXIMAB BIOSIMILAR IN PAEDIATRIC INFLAMMATORY BOWEL DISEASE (PIBD)

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**Aim** To establish patient perspectives on switching to an infliximab biosimilar, which will enable the PIBD team to improve patient experience during future biosimilar switches.

**Methods** Families of patients receiving treatment with an Infliximab biosimilar (Remsima<sup>®</sup>) 2 years after switching from the originator (Remicade<sup>®</sup>) were selected from the active patient database for telephone interview. One family who chose not to switch was also included for interview. A 5-question interview was prepared, which asked parents to rate their overall experience according to a satisfaction rating scale from 1–5. Parents were asked about their knowledge of reasons for switching, if they needed to look up additional information resources and, finally, ways to improve the switching process.

**Results** 18 patients were identified, 16 parents were available for interview. 13 parents gave overall positive feedback with satisfaction scores of 4 or 5 on the numerical satisfaction scale. 3 parents were dissatisfied with the switching process, giving scores of 0, 1 and 3. This resulted in an average satisfaction score of 4.1. The majority of satisfied parents had little knowledge of the switch, not remembering details and indicating the switch was best performed this way. Nonetheless, most recognised costs as the reason for switching. The majority of parents did not need to look up additional information resources, 2 parents named The Crohn's and Colitis Charity and Facebook support groups as useful resources. Two dissatisfied patients requested to switch back to Remicade<sup>®</sup> therapy due to side effects. The family of the patient who chose not to switch made this decision because Remsima<sup>®</sup> was not yet available in the United States, where they also received treatment.

**Conclusion** Biosimilar biologics continue to be approved by the EMA as originators come off patent. Efficacy of infliximab biosimilars in paediatric IBD patients is extrapolated from adult rheumatology data, with limited long term outcome data.<sup>1 2</sup> Successful switches for NHS trusts lead to financial benefits; these savings allow for NHS investment to enable more patients to be treated.<sup>3</sup> Patient autonomy and, in paediatrics, parental views must be respected during this switching process. The majority of interviews with parents were positive, re-affirming the process of this switch. Parental perceptions of

side effects attributed to Remicade<sup>®</sup> highlight the importance of discussing realistic outcomes of therapy with both the originator and biosimilar. When questioned, the parent who refused to switch explained that they did not have faith in the efficacy of the biosimilar and had major concerns of treatment failure. A fear of treatment failure may be described as a 'nocebo' effect<sup>4</sup> which hypothesises that negative attitudes incur less effective results. Increasing our awareness of patient perceptions on switching biosimilars and monitoring reasons for switch failure will better inform us going forward with future biologic switches.

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### CYCLOPHOSPHAMIDE AND MAINTENANCE MYCOPHENOLATE MOFETIL FOR THE TREATMENT OF ANTI-N-METHYL-D-ASPARTATE RECEPTOR (ANTI-NMDAR) ENCEPHALITIS IN A PAEDIATRIC PATIENT

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**Background** Anti-NMDAR encephalitis is one of the commonest known types of autoimmune encephalitis with an increasing recognition in the paediatric population.<sup>1 2</sup> It is characterised by abnormal behavioural and cognitive symptoms, seizures and movement disorders where treatment failure or failure to treat can result in long term disabilities or mortality.<sup>1</sup>

A 4-year-old patient with a background of autism was admitted to the paediatric intensive care unit (PICU) due to encephalitis with convulsive status epilepticus where he remained intubated for 22 days and was later diagnosed with anti-NMDAR encephalitis. The patient had persistent abnormal choreoathetoid movements and intermittent seizures despite multiple anti-epileptics, two courses of corticosteroids, two courses of intravenous immunoglobulin, two cycles (10 sessions per cycle) of plasmapheresis and a course of weekly rituximab. Due to the lack of response from these initial pharmacological interventions, the use of cyclophosphamide and mycophenolate mofetil was considered. Cyclophosphamide and mycophenolate mofetil inhibits the proliferations of B- and T-lymphocytes<sup>3 4</sup> which acts as the basis of its immunosuppressive actions. However, available evidence on the dosing and monitoring information in the paediatric population for this unlicensed indication is limited.

**Pharmacy Contributions** After discussion with the multi-disciplinary team (MDT) with extensive input from the paediatric neurologist, a literature search was conducted to determine an appropriate dosing regimen. As this was an off-label use, the paediatric neurologist and the attending consultant took clinical responsibility. Intravenous cyclophosphamide was started at 750 mg/m<sup>2</sup> once a month for three cycles and oral mycophenolate mofetil was started at 600 mg/m<sup>2</sup> twice a day as

maintenance therapy a week after. The specialist pharmacist explained the individualised treatment plan for the patient to the MDT and ensured measures (hydration and mesna) for the prevention of cyclophosphamide-induced haemorrhagic cystitis were appropriately prescribed on the electronic prescribing system with the appropriate timings of administration. Monitoring parameters to determine adverse effects were closely observed. A local guideline was developed during the treatment cycles to ensure all members of the MDT were following the correct procedures.

**Outcome** The patient responded to cyclophosphamide and clinically improved after the completion of three cycles of monthly treatment. Maintenance mycophenolate mofetil was subsequently stopped a month after the last cycle of cyclophosphamide due to neutropenia. A review of the patient one year after first presentation shows the patient is almost back to their baseline.

**Lessons Learned** Although there are potentially serious side effects, cyclophosphamide and mycophenolate mofetil has been successful in the treatment of anti-NMDAR encephalitis. The recovery of this patient required extensive support from the entire MDT.

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## DO PAEDIATRICIANS RECOGNISE CHILDHOOD OBESITY?

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**Aim** The obesity epidemic in England is growing, with 22% of 4 and 5 year olds and 34% of 10 and 11 year olds being overweight or obese.<sup>1</sup> With obesity being linked to several different illnesses including type 2 diabetes and hypertension, it is vital that clinicians are recognising obesity among children as early as possible.

This study aims to:

- Carry out an audit of identification of obesity in paediatric outpatients to determine whether paediatricians are effectively identifying overweight and obese children, and whether practice conforms to standards in medical guidelines.
- Explore the barriers to discussing overweight and obesity with parents.
- Carry out a prescription audit and compare against current medical guidelines.<sup>2</sup>

**Method** A retrospective review of all new medical patients seen during a one-week period in July was used to determine their weight status and whether they had correctly been identified by clinicians. A short questionnaire was distributed to all clinics at the chosen hospital during a one-week period in October to determine reasons why clinicians may not choose to discuss obesity with patients and their families. A prescription audit was carried out examining the drug cards of all

new overweight and obese patients admitted to wards in the chosen hospital to determine if drug doses had been correctly adjusted for weight.

**Results** 21% (21) patients in the retrospective audit were classified as either overweight or obese. 28.6% of 4 and 5-year olds were found to be either overweight or obese and 14.3% of 10 and 11-year olds. Only 3 of the 21 overweight or obese patients had been recognised as overweight or obese by clinicians in their notes. The questionnaire found that the most common reasons for not discussing overweight and obesity with patients and their families was concerns about maintaining doctor/patient and doctor/parent relationships. Other reasons given were that there was not enough time in clinic appointments or that the family was already aware. Four overweight or obese patients had been prescribed drugs based on their actual weight rather than ideal weight and therefore had received an overdose. All doses for these patients were adjusted accordingly and re-prescribed in line with trust guidelines.

**Conclusions** The results of our study indicate that there is need for regular height and weight checks for all paediatric patients to ensure correct identification and management of overweight and obese children. Ways of doing this may involve more regular height measurements and providing guidelines for medical professionals in how to breach the topic of weight with patients and carers. The results of our pharmacy audit indicate that some overweight and obese children are being prescribed inappropriate doses of medication with clearly shows that there is need for more monitoring of prescribing practices in overweight and obese patients.

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## IMPLEMENTATION OF A PAEDIATRIC OUTPATIENT PARENTERAL ANTIBIOTIC THERAPY (P-OPAT) SERVICE AT A SPECIALIST CHILDREN'S HOSPITAL

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**Aim** The aim of this project is to optimise patient care, enhance patient experience, improve antimicrobial stewardship and assist patient flow through the hospital.

**Method** Data collection was conducted one day a week over five consecutive weeks. All eligible wards were visited. Patient medication charts were inspected to see if intravenous antimicrobials were prescribed and a patient - specific data collection form was then completed. All the patients that met the eligibility criteria to be put forward for OPAT referral were then considered from a clinical perspective by a paediatric consultant as to their suitability for OPAT or IVOST and discharge. If the patient was deemed suitable for an OPAT discharge or IVOST and discharge a decision was made as to what antimicrobials they would theoretically have been on when discharged home. The number of potential bed days saved was calculated as the number of days between the patients review by the consultant (ie the day of data collection) and the date of their discharge prescription from that episode of care.

**The following was examined**

- percentage of patients with identified pathogens