Research Round up March- Prescribing in Children

Introduction

Last month the research round-up provided you with an overview of articles looking at the complex issues encountered when prescribing in pregnancy. This month we will review a range of articles look at prescribing in a young population. The first article looks at antipsychotic prescribing in children and adolescents. The second deals with the prescribing of biologic treatments in Asthma management in children. Finally, we review prescribing trends for drugs prescribed to paediatric patients by GPs.

Trends in antipsychotic prescribing to children and adolescents in England: cohort study using 2000–19 primary care data

M R Radojčić, M Pierce, H Hope, M Senior, V P Taxiarchi, L Trefan, E Swift, K M Abel

This cohort study, published in the Lancet Psychiatry journal sought to identify trends in antipsychotic drug prescribing to children and adolescents in England. One of the drivers for this was the fact that many studies across the globe have given rise to some concerns about the level and increase in the prescribing of these drugs in this population. The cohort used were children between the ages of 3 and 18 years who were identified during a search of a large primary care database, the Clinical Practice Research Datalink (CPRD) Aurum database. This database includes records routinely collected from participating primary care services in England. The data is anonymous so cannot be traced to any individual patient but does allow extraction of demographic data, diagnoses, symptoms, prescriptions, testing and referrals. When defining antipsychotic use, the authors looked for any anatomical therapeutic chemical of class N05A. Included were typical and atypical variants as listed in the BNF. Excluded drugs were lithium and prochlorperazine. Indications were not able to be derived form simple prescription data, so the authors identified potential indications from records in the 6 months prior to the prescription. The data was collected form records spanning January 2000 to December 2019. In total 7,217,098 children meeting main inclusion criteria were identified. Some records were subsequently excluded due to record of gender indeterminate. Of the 7,216,791 children included for analysis, 48.2% were girls and 51.8% boys. The recoded mean age at the start of follow up for prescriptions was 7.3 years. The follow up period was a median of 4.1 years with prescribing of 243,529 antipsychotic prescriptions over that period. The breakdown by type was 92.7% atypical and 7.3% typical antipsychotics. Prevalence of prescribing increased over time from 0.057% in 2000 to 0.105% in 2019. Analysis revealed this represents an increase of 3.3% yearly. Th commonest reasons for prescribing were identified as autistic spectrum disorder, non-affective psychosis, anxiety disorders, ADHD, depression and conduct disorders. The authors suggest there is indeed an increasing trend in antipsychotic prescribing, and this is over new starting of medications and of repeat prescriptions. The conclude that this evidence strengthens the need for increased monitoring of trends and for potential effects of long-term prescribing form childhood.

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Factors to Consider in Prescribing Asthma Biologic Therapies to Children

W C. Anderson III , T M. Banzon , B Chawes , N G. Papadopoulos , W Phipatanakul , S J. Szefler

This article, published in the Journal of Allergy and Clinical Immunology: In Practice, sought to outline factors to consider when prescribing biologic therapies for children with asthma. The authors acknowledge that the evidence to support the use of this treatment in paediatric patients is limited in comparison to the prescribing in adults. They recognise from their review of evidence that often adolescents are grouped with adult patients in trials and that the evidence there is a little more robust although the support more trials. These drugs are becoming more widely available for use compared to in previous years, but the authors acknowledge the burden of cost and that these are not always a cost-effective option and that they much be used judiciously. They suggest that the risk/benefit analysis is important and have compiled a profile of paediatric patients who may be better suited to initiation of a biologic as well as specifics for individual biologics and a guide to discontinuation.

They discuss the global Initiative for Asthma and this suggests considering biologic therapy following diagnosis when there has been failure to respond to optimum dosing of usual treatment options.

They then outline a stepwise process from confirmation of diagnosis, through selection of a biologic, assessment of response and to timing of discontinuation if needed. At the centre of the process should be shared decision making with the patient and family and the prescribing team involved. Response monitoring is well considered here as is when to discontinue ineffective regimens.

The authors conclude that prudent use in a guideline-based approach is appropriate in paediatric populations and that this provides an exciting opportunity to impact on the long term management of severe asthma. They suggest work needs done to explore the safety of long term use and any disease modifying impact.

https://www.sciencedirect.com/science/article/abs/pii/S2213219823000284

General practitioner prescribing trends among pediatric patients in the United Kingdom: 1998–2018

R Masarwa, Cl Lefebvre, RW. Platt, K B. Filion

This article, published in the Journal of Pharmacoepidemiology and Drug Safety sought to describe the prescribing trends of 17 therapeutic drug categories as well as some specific drug classes in children and adolescents in the UK. The specific drug classes were systemic antibiotics, analgesics, and antidepressants. The authors utilised a population based retrospective cohort study approach to collect data from the CPDR GOLD database. This database contains longitudinal routinely collected electronic health records form UK primary care practices using specific software. Data captures is anonymous but includes demographics, diagnosis, symptoms, prescribing incidents, test, referrals, and vaccination history. It is available through the Medicines and Healthcare products Regulatory agency website. The prescription information is recorded and classified according to the BNF. The authors retrieved records for patient under the age of 18 years between November 1998 and June 2018 and identified all prescriptions written by GPs and classified into 17 categories based on chapters and corresponding headers in the BNF. Included in the study were 4,075,527 patient records. The age ranges showed that 32% were for children under the age of two, 12.9% related to ages 2-4.9 years, 28.6% for ages 5-12.9 and 23.3% for 13-18 years, with 50.8% male and 49.2% female split. Results showed that for the period analysed drugs for ADHD increased by 15%, drugs

for anxiety by 14%, and drugs for oesophageal reflux by 8%. Conversely there was a decrease of 6% for cough preparations, and 3% for analgesics. The data revealed no significant change in prescribing of systemic antibiotics. Some other noted findings were that prescribing rates for broad spectrum penicillins and cephalosporins had decreased while there were increases noted in SSRIs, opioids and drugs used in migraine.

They conclude that the main increase in prescribing was for reflux and of centrally acting drugs and they suggest that longitudinal assessments of national drug utilization patterns that can inform research and clinical practice are limited in the paediatric population and that this is an area for development.

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Conclusion

Prescribing in paediatric and adolescent populations can often be daunting due to lack of clinical trials and robust evidence. Review of retrospective data can provide insight into prescribing practices and outcomes. Real world effectiveness is and safety may be improved by post prescribing surveillance of drug utilisation and used to inform future use.