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## FROM SPAIN TO FINLAND TO THE US TO THE UK

Environmental toxins, in the form of pesticides and heavy metals, fill the air and soil, and are in many commercial products. Their impact on fetal growth and development, and infant health, has been the subject of much speculation. Concerns that exposure may lead to cancers and neurocognitive disorders like autism, have been debated for decades. In a series of four articles, an original report by Ortega García *et al* from Spain, two perspectives by Tuomisto from Finland and Ostrea *et al* from the US, and a leading article by Acerini and Hughes from the UK, this issue and that of endocrine disrupting chemicals are explored. Ortega Garcia presents preliminary data that meconium can be used to detect fetal exposure to neurotoxicants, in this case organochlorine compounds. The two perspectives comment on the use and complexity of meconium as a marker of exposure, as well as issues related to dose, timing of exposure, and susceptibility of fetuses to risk of disease. The leading article is broader in scope, and meant as an introduction to endocrine disrupting chemicals. Beginning with a description of the changing epidemiology of male reproductive health, including wide variation in the rates of cryptorchidism and hypospadias, followed by a description of chemical-gene interaction, and wildlife and human studies, this paper places into context the enormous concern about the 100 000 man-made chemicals on the market.

This group of articles represents our commitment to explore the scientific landscape that represents child health. Our subscribers number greater than 10 000 and there are approximately 50 000 pdf downloads per month from our website. We recognise that the interests of our readership are broad, and include human rights, global health, training, epidemiology, health services, clinical care, and basic science. See pages 627, 628, 633 and 642

## RECURRENT ABDOMINAL PAIN – MORE THAN MEETS THE EYE

I have always been dismissive of recurrent abdominal pain (RAP), considering it as part of the pain syndromes—RAP, headaches, and chest pain. I often asked parents to do a “pain diary” and then return in 4–6 weeks to discuss it, knowing full well that the majority would not return and few would complete the diary. This has been my way of triaging out many patients from additional care. A report a few years back, in young adolescents drawn from primary care, indicated that about 75% with RAP had significant mental health diagnoses, including depression, anxiety, and obsessive-compulsive disorder.<sup>1</sup> In this issue, Nakayama *et al*, from Japan, compare diagnoses in 182 children (aged 5 to 18 years) referred for evaluation of abdominal pain. The children were classified into three groups; those who met the Rome II criteria (persistent discomfort but with no alarming symptoms), Apley’s criteria (persistent discomfort that affected the activities of the child), and those that did not fulfil either Rome II or Apley’s criteria. Children who met Rome II criteria were more likely to be older, have psychiatric or somatic disorders, and were more likely to be *Helicobacter pylori* positive than either of the other two groups. I find the results of this study curious. I am not surprised that children who did not meet either Rome or Apley’s criteria appear “healthier” than those with persistent symptoms related to abdominal pain, but why children without alarming symptoms appear to have more psychiatric problems than those with a restriction of physical activities is unclear. It may be related to age and/or the referral process. Regardless, from a clinical standpoint, if children and adolescents do not fulfil either the Rome or Apley’s criteria for RAP we can probably be reassured with respect to their mental health; however, my former approach, of asking parents to complete a pain diary and return in 6 weeks, does not represent high quality healthcare.

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## DISTINGUISHING BETWEEN BACTERIAL AND ASEPTIC MENINGITIS

The administration of antibiotics, and hospitalisation, come with their own morbidity. For decades, we have tried to distinguish between bacterial and aseptic meningitis in an attempt to restrict administration of antibiotics and prevent hospitalisation. This “needle in haystack” phenomenon has become more difficult in the past decade because of the success of both the *Streptococcus pneumoniae* and *Haemophilus influenzae* b conjugate vaccines. Our trainees rarely see a case of bacterial meningitis caused by these organisms. In a well done study from France, Dubos *et al* identified five prediction rules, developed in the post-*H influenzae* flu vaccine era, which distinguish between bacterial and aseptic meningitis. They then assessed the test characteristics of these rules in 20 children with bacterial and 144 with aseptic meningitis. They established 100% sensitivity has a mandatory criterion for accepting any rule. Surprisingly, and quite encouragingly, the simplest rule, developed by Nigrovic *et al*<sup>2</sup>, performed the best, with 100% sensitivity and 66% specificity. The authors do comment on their limited sample size, and although I understand their statement that a rule without 100% sensitivity on a small sample could not reach 100% sensitivity with a larger sample, the converse is not true. It remains possible that this rule, if tested on a larger sample would not have 100% sensitivity, the goal for any prediction rule involving bacterial meningitis. So where does this leave us? Every time we discuss prediction rules for bacterial meningitis on rounds, we always conclude that although they may be helpful, the rule can only be offered as a guide to clinical management, because of fear about missing a patient with bacterial meningitis. I know of no acute care setting that strictly adheres to a prediction rule for bacterial meningitis.

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## REFERENCES

- 1 Campo JV, Bridge J, Ehmann M, *et al*. Recurrent abdominal pain, anxiety, and depression in primary care. *Pediatrics* 2004;113:817–24.
- 2 Nigrovic LE, Kupperman N, Malley R. Development and validation of a multivariable predictive model to distinguish bacterial from aseptic meningitis in children in the post-*Haemophilus influenzae* era. *Pediatrics* 2002;110:712–19.