Author's response to reviews

Title: Application of a plain abdominal radiograph transition zone (PARTZ) in Hirschsprung's disease: Implications for a single stage transanal pull through

Authors:

Akshay Pratap (akshaypratap2000@gmail.com)
Devendra K Gupta (devendra6@hotmail.com)
Awadhesh Tiwari (atiwari@yahoo.co.uk)
Arvind K Sinha (aksinha@yahoo.com)
Nisha Bhatta (nisha@hotmail.com)
Chandra S Agrawal (drcsagrawal@yahoo.com)
Shailesh Adhikary (sadhikary@hotmail.com)
Anand Kumar (anand_bhu@satyam.net.in)

Version: 2 Date: 24 September 2006

Author's response to reviews:

From Dr Akshay Pratap
Assistant Professor
Pediatric Surgery
BP Koirala Institute of Health Sciences
Dharan
Nepal

To,
The Editor in chief
BMC Pediatrics

Dear Sir,
Please find the replies to the reviewer's comments on the manuscript titled Application of a plain abdominal radiograph transition zone (PARTZ) in Hirschsprung's disease manuscript number, 1389274886106862

Sincerely
Dr Akshay

Respected Prof Langer,
It has been a privilege for us to have our manuscript reviewed by you. Your critiques are well founded and we have made the changes in the manuscript as suggested by you. Find find our replies to your queries below.

Query 1: A primary ERPT in the neonatal period should be viewed as an acceptable procedure in the management of the infant with Hirschsprung's disease. The approach should be restricted to infants who are stable and show no signs of enterocolitis at the time of the pull-through procedure. The application of a plain abdominal radiograph in accurately identifying the level of transition zone and facilitate a single stage transanal pull through is described in this paper. With increasing experience with the primary pull-through, we have grown to appreciate the indications and contraindications. Indications include a healthy infant who is diagnosed with Hirschsprung's disease in the newborn period. The most common contraindication is a delay in the diagnosis, with a resultant dilation of the more proximal colon. This dilation is best seen with a contrast enema study, which is highly recommended in most patients. Additional contraindications include an infant who has significant enterocolitis or associated medical conditions that might complicate a prolonged surgical case, such as congenital heart disease. This group of patients will require either a laparoscopic determination of transition zone or a formal laparotomy with accompanying colostomy where these expert laparoscopic facilities are unavailable. PARTZ can be regarded as an adjunct to the investigation armamentarium to help the surgeon decide the surgical approach. Nevertheless the general condition and presence of co morbid anomalies are of paramount importance to consider the final course of
action. The abstract and the text has been made clearer in this regard.

Query 2: We completely agree with you that a mini laparoscopic biopsy to identify the transition zone and proceed for a transanal pull through is what is a very practical solution. However there are limitations for the use of laparoscopic surgery especially in developing countries like ours where facilities and trained manpower is not available. The revised manuscript addresses the recent options available. As a note I would like to share with you our protocol to treat babies with HD. We don't have a suction forceps so we resort to a full thickness biopsy. We understand its crude, but there is so much of financial constraints that there seems to be no other way out. My team has performed just over 46 primary transanal pull throughs since 2002. In the context of HD management, we are encountered by three questions in his mind while making a decision to proceed for surgery. Could it be a total colonic aganglionosis? Or long segment HD? And where is the level of transition? The answer to the first question is clear on the plain abdominal radiograph which would show multiple air fluid levels suggestive of TCA (this has been one of our exclusion criteria in our study). To answer the next two questions, if one assumes that 80% of the babies would have a transition zone at the rectosigmoid, one can proceed through the transanal approach and once the appropriate level of rectosigmoid is reached by anal dissection a frozen can be ordered. We have been able to mobilize the colon up to the midsigmoid region without compromising the mesentery. If one finds ganglion cells in the frozen, a coloanal anastomosis can be safely performed. If not, then one may have to resort to a lap mobilization of the colon. Since we don't have a laparoscope babies undergo laparotomy in these cases. Primary transanal dissection helps us up to the sigmoid from where depending on the frozen section results we change course of surgery. Yes definitely laparoscopy will take this guess work away, but this approach helps us achieve results, as far as possible, comparable to developed centers.

Query 3: Enterocolitis is difficult to define. We have used the modified Bell staging criteria, which is a composite of clinical signs and symptoms (eg, abdominal distention, bloody stools, or hypotension), biochemical parameters (eg, thrombocytopenia or neutropenia), and radiographic signs (eg, pneumatosis or pneumoperitoneum).

Query 4: Yes all the images were read preoperatively by the same radiologist (A.T).
Query 5: The statistical analysis was done using chi square test comparing the two groups. There were 4 parameters in the study. The defining variable was the presence of transition zone. In the first group we compared in how many patients did PARTZ and CETZ showed a clear transition zone. In the second group we compared the level of transition zone on radiograph with that on the resected specimen. In the third group we tested the level of transition zone on contrast enema with that on the resected specimen. The final fourth analysis was analysis of patients with an inconclusive contrast enema but showed PARTZ on the plain abdominal radiograph. The percentages indicate the number of patients having either a positive or a negative result.
Query 6: The results section has been revised to make things clearer.
Query 7: The references have been corrected and updated.
Thank you once again for your critiques and our apologies for the errors in the manuscript.
Regards,
Dr Akshay