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Obstetric injuries and subsequent gynaecological presentations

Authors' Reply

Sir,

Thank you for giving us the opportunity to comment on Dr Quinn's interesting letter.¹ It is plausible that levator trauma may be associated with chronic pelvic pain as a result of childbirth. This needs to be studied in the future as, for the time being, we only have anecdotal evidence. We have not been able to describe concurrent injuries to the uterosacral ligaments and pelvic nerves as these structures are not visualised on four-dimensional translabial ultrasound imaging. In our prospective observational study,² and in studies from other groups, forceps delivery^{3,4} and prolonged second stage^{3,5} were found to be associated with levator injury. In our series, intrapartum epidural appeared to be protective against levator injury. Further studies are needed to clarify the association between obstetric practices and levator trauma. Based on current evidence, however, one may well consider performing a vacuum instead of forceps delivery if assisted delivery is required. Furthermore, it appears reasonable to restrict the length of the second stage. Epidural block should be considered for pain relief if desired. ■

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Irreversible traumatic distension of the levator hiatus

Sir,

I read with interest the paper by Shek and Dietz,¹ and congratulate the authors for an informative study. With all its limitations, such as early postpartum follow-up, the authors have described a new form of birth trauma (irreversible overdistension injury), which is distinct from levator avulsion injury, and cannot be detected by static magnetic resonance imaging (MRI). In their study, 13% of women after a normal vaginal delivery had levator avulsion diagnosed. I would be grateful if the authors could clarify how many of these women had an episiotomy and how many sustained a perineal tear. Similarly, I would be grateful for clarification on how many of the 28.5% of vaginally parous women diagnosed with 'levator microtrauma' had normal deliveries, and what proportion had episiotomies and perineal tears.

Levator avulsion (macrotrauma) has also been detected on MRI scans, and is believed to result from avulsion from the origin of the muscle at the pubic symphysis. I would be grateful if the authors could suggest how 'levator microtrauma' (which implies patchy infarcts or ischaemia) would lead to a permanent overdistension of the levator hiatus. Instead, one wonders whether disruption of the perineal body (which is the midline union of muscles and endopelvic fascia) is another possible mechanism of irreversible traumatic overdistension of the levator hiatus. Indeed, whereas the levator can distend to 1.5 times its size, fascia would probably have a lower threshold for disruptions. On clinical examination, a widened urogenital hiatus is often correlated with a deficient perineum.

Recent work has shown that mediolateral episiotomies are closer to the midline than was previously believed.^{2,3} One wonders whether acutely angled episiotomies and midline perineal tears (especially anal sphincter injuries) are contributory factors to perineal body disruption and consequent overdistension injury.

The authors conclude by suggesting modifications in current obstetric practices to prevent levator trauma, without specifying what these are. I would be grateful for their

thoughts on whether a well-directed mediolateral episiotomy could reduce the risk of overdistension injury, as has been suggested by DeLancey.⁴

Also, is the timing of the episiotomy important? Is the damage already done by the practice of giving episiotomies at crowning? Would performing an episiotomy *prior* to the crowning of the head help in preventing irreversible overdistension injury? ■

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Irreversible traumatic distension of the levator hiatus

Authors' Reply

Sir,

Thank you for asking me to comment on Dr Kapoor's letter.¹ He raises several interesting questions regarding our study recently published in *BJOG*.² The percentage of episiotomy in the 32 women diagnosed with levator avulsion was 41% (13/32). A total of 56% (18/32) had perineal tears of any degree, and 22% (7/32) sustained a major perineal tear. The corresponding figures for the group of women diagnosed with levator microtrauma was 25% (14/57), 47% (27/57) and 7% (4/57), respectively. Forty-two women had a normal vaginal delivery, and 11 had a vacuum and four had a forceps delivery.

During labour, maternal expulsive efforts and the force exerted by uterine contractions during the descent of the fetal head may potentially lead to vascular, neuromuscular and connective tissue changes.^{3–6} Muscular atrophy, a reduction in function and/or alterations in pelvic floor distensibility may ensue. Dharmesh S Kapoor has rightly pointed out that the early postpartum follow-up (median 4.08 months) in our series is a limitation. However, we have recently analysed the first 161 patients returning for a 2–3 year follow-up, and there were no significant changes in hiatal dimension on Valsalva compared to the 3–6 month follow-up. The suggestion that a disrupted peri-

neum may be a possible mechanism of irreversible traumatic overdistension of the hiatus is very interesting. Future work should examine the relationship between a deficient perineum with a widened urogenital hiatus and hiatal distensibility. In our study we did not find any significant association between episiotomy ($P = 0.75$), all perineal tears ($P = 0.26$) and major perineal tears ($P = 0.26$) with levator microtrauma.

In a previous response⁷ to a letter from Dr Quinn⁸ we have suggested, based on current evidence, that vacuum delivery instead of forceps delivery, restriction of the length of second stage and epidural analgesia may be considered to potentially reduce or even prevent levator injury. With regard to the questions on episiotomy, we do not know whether episiotomy and the timing of the procedure may help prevent levator injury. A randomised controlled study would be needed to answer these questions. ■

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Laparoscopic assisted radical vaginal hysterectomy versus radical abdominal hysterectomy—a randomised phase II trial: perioperative outcomes and surgicopathological measurements

Sir,

We applaud Naik *et al.*¹ for undertaking an RCT in the surgical treatment of early-stage cervical cancer. Clinical