Editorial

The transperitoneal approach for anterior lumbar interbody fusion at L5–S1: a technical note

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We read with great interest the recent article by Mobbs *et al.* (1) regarding the approach for anterior lumbar interbody fusion at the L5–S1 segment. The authors presented a clinical vignette describing a middle-aged woman with severe S1 radiculopathy secondary to a recurrent disc herniation at the L5–S1 level following two posterior microdiscectomy procedures. Subsequently, the authors describe the retroperitoneal technique for anterior lumbar interbody fusion at this level. We commend the authors for their detailed technique and intraoperative video; however, we believe that it is important for the readers to recognize the transperitoneal approach as an additional option for anterior lumbar interbody fusion at this level.

At our institution, a high-volume spine center, the transperitoneal approach for anterior interbody fusion is the gold standard at the L5–S1 segment. Anatomically, the transperitoneal approach is the most direct access to the interspace between the common iliac vessels. Similar to the retroperitoneal approach, the transperitoneal approach begins with a Pfannenstiel incision 5 cm above the pubis and vertical dissection through the linea alba. However, after reaching the pre-peritoneal fat deep to the linea alba, the fat is dissected in the midline until the peritoneal membrane is reached. The fat layers are lifted towards the ceiling with DeBakey forceps to pull the peritoneum away from the underlying bowel and prevent inadvertent injury. The cecum is retracted to the patient's right with a rolled up wet lap pad. Similarly, the sigmoid is retracted to the patient's left and small bowel retracted superiorly with a Thompson self-retractor system. The L5–S1 segment is immediately palpable deep in the wound, and the disc space is exposed with predominantly blunt dissection. Only minimal short bursts of monopolar electrocautery are utilized to prevent injury to the superior hypogastric plexus and resultant retrograde ejaculation. The remainder of the procedure, including discectomy, endplate preparation, and instrumentation, is identical to the description in the article.

There is lack of high-quality evidence in the spine literature regarding the optimal surgical approach to the L5–S1 segment for anterior lumbar interbody fusion. In subgroup analysis of the rhBMP-2 investigational device exemption study, Sasso and colleagues reported a 10 times greater chance of causing retrograde ejaculation with the transperitoneal approach compared with the retroperitoneal approach using patient questionnaires (2). The results of this study were questioned by Birch and Shaw, who reported an equivalent rate of retrograde ejaculation with both approaches (3). Central to the debate involves the lack of a standardized, validated evaluation to assess the problem of retrograde ejaculation (4). In our clinical experience, the transperitoneal approach has been both effective and efficient for anterior lumbar interbody fusion at the L5–S1 segment and should be recognized as an equivalent option to the retroperitoneal approach.

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Footnote

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