



FIGURE 2 Abdominal radiography confirms correct positioning of the catheter within the inferior vena cava.

the guidewire, difficulty or inability to aspirate blood through the catheter, lateral deviation of the catheter at the L4 and L5 levels on abdominal plain films, a catheter path directly overlying the vertebral column, signs of unexplained acute respiratory distress or seizure, and neurological deficits in children receiving parental nutrition via the catheter.<sup>2-4</sup>

Despite the absence of warning signs during the described procedure, the catheter was clearly misplaced. Only the abdominal *x-ray* demonstrated the incorrect ascending lumbar venous cannulation. This experience highlights the importance of routine radiographic confirmation of femoral venous catheter position in the pediatric population.

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 Accepted for publication December 9, 2005.

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## *The GlideScope® video laryngoscope: initial experience in five neonates*

To the Editor:

The GlideScope® video laryngoscope (GVL; Saturn Biomedical Systems, Burnaby, BC, Canada) is a relatively new intubating device.<sup>1-3</sup> The greatest reported experience with the GVL is in adult patients.<sup>1,3</sup> We recently used the neonatal model GVL in five neonates presenting for elective nasotracheal intubation (NTI). Demographics are reported in the Table. Nasotracheal intubation was performed by two pediatric residents supervised by an expert neonatologist. In accordance with our local protocol, fentanyl 2 µg·kg<sup>-1</sup> iv was administered to all patients prior to NTI.

Intubation with GVL was successful in three of the five cases (cases 1, 2, 5). In cases 3 and 4, NTI was performed by direct laryngoscopy after two failed attempts with the GVL. In case 1, a good view of the glottis was obtained and the tracheal tube (TT) was passed without difficulty. In the remaining four patients, the view of the glottis was very limited, including cases 2 and 5, and several other problems were encountered. Although airway images had excellent definition, "fogging" occurred to a greater or lesser degree, limiting the view of the pharynx and larynx.<sup>2</sup> A second limitation specific to the neonatal population relates to the special curvature of the GVL blade that appears to cause resistance to the advancement of the TT.<sup>3</sup> In case 1, this difficulty was overcome by repositioning the blade inside the mouth. In the smaller neonates, this procedure was not possible because the blade in which the camera was installed was blocked by the small size of the mouth. As the length and the width of the blade were inadequate

TABLE Experience with GlideScope® for tracheal intubation in neonates

Case	Sex	Birth weight (g)	Gestational age (weeks)	Primary respiratory disease	Indication for tracheal intubation	Tracheal intubation with GlideScope® video laryngoscope
1	M	3500	38	Congenital diaphragmatic hernia	Progressive respiratory failure	Yes
2	M	2970	36	Respiratory distress syndrome	Surfactant administration	Yes
3	F	2260	32	Respiratory distress syndrome	Surfactant administration	No
4	M	590	24	Respiratory distress syndrome	Tracheal tube exchange	No
5	M	590	23	Respiratory distress syndrome	Tracheal tube exchange	Yes

for this group of preterm infants, development of a smaller version, suitable for neonatal use, may be warranted.

The two main advantages of the GVL, when compared to standard laryngoscopes, are an improved view of the larynx facilitating successful tracheal intubation, and a potential role for teaching purposes.<sup>3-5</sup> While these aspects are important for personnel dedicated to adults patients, they could assume equal, if not greater, potential importance for physicians involved in the care of the neonatal airways.

Finally, we noticed that the position of the operator using GVL is different from operator positioning for direct laryngoscopy. The orientation of the videochip imparts a different laryngoscopic view as compared to that seen when simultaneously looking into the mouth.<sup>4</sup> Our experience suggests the requirement for operator training with this new instrument before routine use. On a positive note, the manipulations of the GVL by the resident, and the observed effect of these manipulations on the position of the blade tip on the GVL display and passage of the TT made it a valuable teaching device. The verbal instructions to the resident were also helpful to attending observers.

In conclusion, we feel that the GVL could become an effective device for neonatal intubation. However, the neonatal model GVL we used was not entirely satisfactory in the neonatal population. This group of patients may well benefit from further refinements of the GVL specifically designed for neonatal use.

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Accepted for publication December 5, 2005.

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## Verifying spinal needle location in the presence of a "dry tap"

To the Editor:

It is with great interest that I read the letter by Ramachandran and Ponnusamy describing successful spinal anesthesia after multiple attempts with a distinct "give", but no free flow of cerebrospinal fluid (CSF).<sup>1</sup> The authors of this article should be commended for their cautious management of this infrequent clinical situation. I agree with the authors' statement that "common sense dictates that the procedure be repeated, but if the outcome remains the same, and the patient refuses general anesthesia the options are limited." I would also like to point out other options that may be considered. Although radiological imaging with contrast may be impractical and cumbersome in some settings, this diagnostic approach would verify exact needle position prior to injection of the local anesthetic. The recently introduced epidural stimu-