as ACEI and furosemide should warrant periodic assessment of renal function, particularly serum creatinine. In such conditions if renal failure goes unrecognized, toxicity of drugs excreted through the kidneys can be more fatal than renal failure itself and can occur even without elevated levels of the drugs in the serum.

**Sheetal Mehta and M. Vijayakumar**[1]
[1]*Consultant Pediatric Nephrologist*
*Kanchi Kamakoti CHILDS Trust Hospital*
*Chennai – 600 034, India*
*E-mail: docotrmvk@gmail.com*

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**Scientific Letters to the Editor**

# Modification of Seldinger Technique for Introduction of Femoral Lines in Newborns

Sir,

Central venous catheterization or the placement of long lines is becoming more common in neonatal set ups. Indications for central line placement in neonates include difficult IV access, need for prolonged IV therapy and total parenteral nutrition.[1] In specialized cardiac set ups, these lines can be used for monitoring central venous pressures. Inserting central lines through the femoral route in small and sick newborns is challenging, and has a complication rate significantly higher than insertions in older children, owing to the limited caliber of the neonatal femoral vein.[1] In our Institute, we have been inserting central lines through a percutaneous femoral route in neonates. The technique is safe, [1,2] does not need a C-arm, and has proved not to increase the incidence of infections.[2] The lines used included Leaderflex 22 G (Vygon) and Arrow single lumen 22G catheter.

Although the accepted and time honored technique for the placement is based on Seldinger's method, we found that introduction of the guide wire through the wide bore needle supplied in the kit was difficult owing to the small caliber of the neonatal femoral vein, with minimal movement leading to a counter puncture or the needle slipping out of the vein. The observation that the guide wire of the device used would pass equally well through the sheath of a 22 guage venflon prompted us to modify the technique with excellent placement results.

After sterile preparation and adequate restraint and /or sedation, a 22 G veflon is used to make the initial femoral venipuncture, the sheath and the stilette being mounted on a 5ml syringe filled with saline. Once venous blood is aspirated, the cannula is introduced fractionally in, and the stilette is withdrawn. The syringe is now connected to the venflon sheath and saline is pushed to make sure that the cannula is in place. While flushing the cannula, it is gently advanced into the vein, until the entire sheath has been placed. Aspiration of blood and free flow confirm that the venflon is indeed in the vein. Now it is a simple matter to put the guide wire into the vein through the venflon, remove the venflon and thread the catheter into the vein after using a vein dilator. Flushing the catherter, fixation and dressing complete the procedure.

Using this slight modification, the author has been able to successfully place 22G femoral lines percutaneously in babies weighing as little as 800 g. The author believes this modification enhances the safety of the procedure and increases the success rate of femoral placement of central lines.

**Dr Anindya Chattopadhyay**
*Department of Pediatric Surgery*
*Dr. BC Roy Memorial Hospital for Children*
*Narkeldanga Main Road, Kolkata, India*
*E Mail: achattopadhyay@yahoo.com*
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