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Port-Wine Stain Surgery Safe In Pediatric Procedure Room

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MIAMI BEACH — Laser surgery with intravenous deep sedation can be performed safely in a pediatric procedure room rather than an operating room when treating congenital vascular stains, Dr. Elizabeth Alvarez Connelly said in a poster presentation at the annual Masters of Pediatrics conference sponsored by the University of Miami.

Pulsed dye lasers are considered the standard for the treatment of congenital vascular stains in young children, but one of the greatest challenges in their use is maintaining an adequate comfort level throughout the multiple treatment sessions needed.

Children are traditionally treated under gas anesthesia in the OR, but repeat sessions can be costly for all parties and stressful to the patient and family, said Dr. Connelly, a pediatric dermatologist at the University of Miami.

Laser surgery in pediatric procedure rooms does not require a sterile environment or a clearance visit by a pediatrician or anesthesiologist and allows clinicians to treat a large surface area during one laser session. The average time from start to patient release is about 2 hours, compared with 4-6 hours for OR-based treatments.

"For new parents, it's wonderful because they can come in to the procedure room and are there during the [intravenous line placement] and when they leave they can see that the child is asleep and comfortable," she said in an interview. "For the child, they don't even notice the parent was gone. It's just so much easier on everyone."

Dr. Connelly and colleagues presented a case series of 15 children with port-wine stains larger than 10 cm^2 who received laser surgery in a pediatric procedure room separate from the main operating suite, with sedation provided by a nurse practitioner and pediatric intensivist. Ethyl chloride spray was used prior to intravenous line insertion and intravenous propofol (Diprivan)/fentanyl or ketamine was dosed based on weight.

The patients received an average of three to four treatments with a 595-nm pulsed dye laser (Candela VBeam) at a fluence of 7.5-9.5 J/cm^2, pulse duration of 1.5 milliseconds, and 7-mm spot size.

Lightening of individual port wine stains was observed in all patients after each treatment. The only side effect, purpura, developed in all of the children treated and lasted for 10-14 days, which is the natural course following laser therapy, Dr. Connelly said.

There were no adverse reactions to the anesthesia. No intubations or overnight hospitalizations were required.

Without expensive OR costs, there was a 50%-70% cost savings per laser procedure, said Dr. Connelly, who acknowledged that a formal cost analysis was not performed.

When moving laser treatments from the OR to a pediatric procedure room, ensure that preoperative fluids are restricted based on age; properly sized safety equipment is readily available; and all patients are watched carefully for signs of nausea, vomiting, or fever prior to discharge, she said.

Dr. Connelly added that she has no relevant financial relationship with Candela Corp. ■