# Is Preoperative Ultrasound Examination Useful for Detecting Contralateral Patent Processus Vaginalis in the Groin Hernias of Children?

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**Abstract**

**Background:** Ultrasound (US) examination is a noninvasive method for scanning the body surface and abdominal structures. We performed preoperatively US examinations to detect contralateral patent processus vaginalis (CPPV) in children with clinically diagnosed unilateral groin hernias to evaluate the utility of US in the preoperative identification of a CPPV.

**Patients and Methods:** Between July 2008 and March 2011, 273 patients with groin hernias were treated surgically at our institution. Two hundred forty-eight patients with unilateral groin hernias underwent a preoperative US examination. During the US examination, we defined the patients as CPPV positive if an echo free structure related to the abdominal cavity with movable contents was observed in the contralateral groin region. Regarding the surgical findings, we interpreted patients to be positive for the condition if the CPPV was over 2 cm in length.

**Results:** In the 248 patients, 12 patients were diagnosed by US to be CPPV positive. They underwent contralateral exploration, and nine patients (75.0%) were surgically proven to be CPPV positive. On the other hand, five patients who underwent a preoperative US examination and were diagnosed to be CPPV negative had a contralateral hernia appear after a few months.

**Conclusions:** Preoperative US examination is useful for detecting CPPV. In US examinations, herniation of the viscus and fluid accumulation detected over the contralateral groin predicts the existence of a CPPV.

**Key words: Groin hernia, Child, Contralateral patent processus vaginalis, Ultrasound**