References

1 Bolisetty S, Osborn D, Sinn J, Lui K; Australasian Neonatal Parenteral Nutrition Consensus Group. Standardised neonatal parenteral nutrition formulations – An Australasian group consensus 2012. *BMC Pediatr.* 2014; **14**: 48.
2 Bolisetty S, Pharande P, Nirthanakumaran L *et al*. Improved nutrient intake following implementation of the consensus standardised parenteral nutrition formulations in preterm neonates – A before-after intervention study. *BMC Pediatr.* 2014; **14**: 309.
3 Embleton ND, Simmer K. Practice of parenteral nutrition in VLBW and ELBW infants. *World Rev. Nutr. Diet*. 2014; **110**: 177–89.
4 Koletzko B, Poindexter B, Uauy R, eds. *Nutritional Care of Preterm Infants: Scientific Basis and Practical Guidelines. World Review of Nutrition and Dietetics*, Vol. **110**, I–XII. Basel: Karger; 2014.

Dear Editor,

ULTRASONOGRAPHIC EVALUATION IN PATIENTS WITH UNILATERAL UNDESCENDED TESTIS: USEFUL, UNNECESSARY OR HARMFUL?

We congratulate the authors on their splendid review of undescended testis.[1] The authors claim imaging for unilateral undescended testis (UDT) is usually unnecessary because UDT is frequently palpable in the hands of experienced surgeon. UDT is palpable in about 80% of cases[2] and we firmly agree that in these circumstances any imaging tool is unnecessary. However, it is has been reported that, due to body habitus, testicular size and/or limited examination secondary to poor patient cooperation, 10–30% of UDT are located in the inguinal canal but not appreciated by the surgeon.[2] A systematic review and meta-analysis, found that ultrasound was 97% sensitive in detecting non-palpable inguinal UDT.[3] In this condition, a positive ultrasound could spare unnecessary diagnostic laparoscopy and could allow an inguinal or pre-scrotal orchidopexy to be performed. In contrast, in other cases of non-palpable testis ultrasound has a composite sensitivity of 45% and specificity of 78%,[3] and diagnostic laparoscopy is recommended. Finally, ultrasonography can be a 'harmful' imaging tool for patients, families and physicians. Ultrasonography is more likely that not to mislabel a normal or retractile testis as a palpable UDT, which is misleading to the referring physician and patient's family and may cause undue concerns. Moreover, due to inadequate sensitivity and specificity in case of non-palpable testis, ultrasonography can give parents false information and false hope or concern about the pathology of their child, sometimes even resulting in legal action.[4]

In conclusion, we are convinced that for UDT, accurate clinical examination in experienced hands is an irreplaceable diagnostic tool. Any diagnostic tool is not necessary in the evaluation of palpable UDT and ultrasonography should be limited in selected cases. In non-palpable testis laparoscopy, even if an invasive procedure, remains the unique procedure with a sensitivity close to 100%.

Dr Salvatore Arena
Dr Enrica Antonelli
Professor Pietro Impellizzeri
Professor Carmelo Romeo
Department of Human Pathology of Adult and Childhood
"Gaetano Barresi"
University of Messina
Messina
Italy

Conflict of interest: None declared.

References

1 Hutson JM, Vikraman J, Li R, Thorup J. Undescended testis: What paediatricians need to know. *J. Paediatr. Child Health* 2017; **53**: 1101–4.
2 Arena S, Impellizzeri P, Perrone P *et al*. Is inguinal orchidopexy still a current procedure in the treatment of intraabdominal testis in the era of laparoscopic surgery? *J. Pediatr. Surg.* 2017; **52**: 650–2.
3 Tasian GE, Copp HL. Diagnostic performance of ultrasound in nonpalpable cryptorchidism: A systematic review and meta-analysis. *Pediatrics* 2011; **127**: 119–28.
4 Esposito C, Escolino M, Savanelli A, Alicchio F, Roberti A, Settimi A. Ultrasonography is unnecessary and misleading in evaluating boys with a nonpalpable testis and can be a cause of a legal process. *Med. Sci. Law* 2013; **53**: 247–8.