

these all arise as a result of aberrations of renal development and are congenital abnormalities. It is important to differentiate between congenital abnormalities of the renal tract that have clinical significance—that is, have a higher incidence of complications, or cause renal impairment, and those that do not.

Competing interests: None declared

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## REFERENCES

- 1 **Larsen WJ**. Development of the urogenital system. In: Larsen WJ. *Human embryology*. Third edition. Philadelphia: Churchill Livingstone, 2001:265–313.
- 2 **Sadler TW**. Urogenital system. In: Sadler TW. *Langman's medical embryology*. Seventh edition. Baltimore: Lippincott, Williams & Wilkins, 2006:272–311.
- 3 **Pohl M**, Bhatnagar V, Mendoza SA, *et al*. Toward an etiological classification of developmental disorders of the kidney and upper urinary tract. *Kidney Int* 2002;**61**:10–19.
- 4 **Glassberg KI**. Normal and abnormal development of the kidney: a clinician's interpretation of current knowledge. *J Urol* 2002;**167**:2339–50.
- 5 **Siegel MJ**. Urinary tract. In: Siegel M. *Pediatric sonography*. Third edition. Philadelphia: Lippincott Williams & Wilkins, 2001:385–473.
- 6 **Haller JO**, Berdon WE, Friedman AP. Increased renal cortical echogenicity: a normal finding in neonates and infants. *Radiology* 1982;**142**:173–4.
- 7 **Han BK**, Babcock DS. Sonographic measurements and appearance of normal kidneys in children. *AJR Am J Roentgenol* 1985;**145**:611–16.
- 8 **Vade A**, Lau P, Smick J, *et al*. Sonographic renal parameters as related to age. *Pediatr Radiol* 1987;**17**:212–15.
- 9 **Einstein DM**, Singer AA, Paushter DM, *et al*. Hypoechoic renal pyramids: sonographic visualization in older children and young adults. *Urol Radiol* 1992;**13**:162–5.
- 10 **Lafortune M**, Constantin A, Breton G, *et al*. Sonography of the hypertrophied column of Bertin. *AJR Am J Roentgenol* 1986;**146**:53–6.
- 11 **Seppala RE**, Hammond DI, Vezina CT, *et al*. Sonography of the hypertrophied column of Bertin. *AJR Am J Roentgenol* 1987;**148**:1277–8.
- 12 **Patriquin H**, Lefaiivre JF, Lafortune M, *et al*. Fetal lobation: an anatomo-ultrasonographic correlation. *J Ultrasound Med* 1990;**9**:191–7.
- 13 **Carter AR**, Horgan JG, Jennings TAAT. The junctional parenchymal defect: a sonographic variant of renal anatomy. *Radiology* 1985;**154**:499–502.
- 14 **Benz-Bohm G**. Urinary tract embryology, anatomy and anatomical variants. In: Fotter R, ed. *Pediatric urology*. Berlin: Springer-Verlag, 2001:43–53.
- 15 **Sheih CP**, Liu MB, Hung CS, *et al*. Renal abnormalities in schoolchildren. *Pediatrics* 1989;**84**:1086–90.
- 16 **Rodriguez MM**. Developmental renal pathology: its past, present, and future. *Fetal Pediatr Pathol* 2004;**23**:211–29.
- 17 **Riccabona M**, Ring E. Renal agenesis, dysplasia, hypoplasia, and cystic diseases of the kidney. In: Fotter R, ed. *Pediatric urology*. Berlin: Springer-Verlag, 2001:229–51.
- 18 **Fernbach S**. Congenital renal anomalies. In: Kuhn JP, Slovis TL, Haller JO, eds. *Caffey's pediatric diagnostic imaging*. Tenth edition. Philadelphia: Mosby, 2004:1758–86.
- 19 **Cascio S**, Paran S, Puri P. Associated urological anomalies in children with unilateral renal agenesis. *J Urol* 1999;**162**:1081–3.
- 20 **Hiraoka M**, Tsukahara H, Ohshima Y, *et al*. Renal aplasia is the predominant cause of congenital solitary kidneys. *Kidney Int* 2002;**61**:1840–4.
- 21 **Kaneyama K**, Yamataka A, Satake S, *et al*. Associated urologic anomalies in children with solitary kidney. *J Pediatr Surg* 2004;**39**:85–7.
- 22 **Dursun H**, Bayazit AK, Buyukcelik M, *et al*. Associated anomalies in children with congenital solitary functioning kidney. *Pediatr Surg Int* 2005;**21**:456–9.
- 23 **Shapiro E**, Goldfarb DA, Ritchey ML. The congenital and acquired solitary kidney. *Rev Urol* 2003;**5**:2–8.
- 24 **Dursun H**, Bayazit AK, Cengiz N, *et al*. Ambulatory blood pressure monitoring and renal functions in children with a solitary kidney. *Pediatr Nephrol* 2007;**22**:559–64.
- 25 **Decter RM**. Renal duplication and fusion anomalies. *Pediatr Clin North Am* 1997;**44**:1323–41.
- 26 **Bernstein J**, Ridson RA, Gilbert-Barness E. Renal. In: Gilbert-Barness, ed. *Potter's pathology of the fetus and infant*. St Louis: Mosby Year Book, 1997:863–935.
- 27 **Glassberg KI**, Braren V, Duckett JW, *et al*. Suggested terminology for duplex systems, ectopic ureters and ureteroceles. *J Urol* 1984;**132**:1153–4.
- 28 **Benz-Bohm G**. Anomalies of kidney rotation, position and fusion. In: Fotter R, ed. *Pediatric urology*. Berlin: Springer-Verlag, 2001:55–60.
- 29 **Gleason PE**, Kelalis PP, Husmann DA, *et al*. Hydronephrosis in renal ectopia: incidence, etiology and significance. *J Urol* 1994;**151**:1660–1.
- 30 **Guarino N**, Tadini B, Camardi P, *et al*. The incidence of associated urological abnormalities in children with renal ectopia. *J Urol* 2004;**172**:1757–9.
- 31 **Barnewelt CE**, Lebowitz RL. Absence of a renal sinus echo complex in the ectopic kidney of a child: a normal finding. *Pediatr Radiol* 1996;**26**:318–23.
- 32 **Mesrobian HG**, Kelalis PP, Hrabovsky E, *et al*. Wilms tumor in horseshoe kidneys: a report from the National Wilms Tumor Study. *J Urol* 1985;**133**:1002–3.
- 33 **Wilson C**, Azmy AF. Horseshoe kidney in children. *B J Urol* 1986;**58**:361–3.

## Addendum

An Eletter published in response to *Green for danger! Intestinal malrotation and volvulus*<sup>1</sup> highlights a recent *BMJ* publication<sup>2</sup> that explored the perceptions of nurses, postnatal midwives, parents and GPs, regarding the colour of bile stained vomit. The study concluded that there is no clear consensus on the colour of bilious vomiting, with many respondents unaware that green vomit indicates bile. The authors also point out that yellow vomiting in babies should not be disregarded as some of their patients with yellow vomit were found to have bowel obstruction.

In summary: it is more informative to ask about the colour of the vomit rather than whether it contained bile. Also, it is not only green for danger, but sometimes yellow too.

## References

- 1 **Williams H**. Green for danger! Intestinal malrotation and volvulus. *Arch Dis Child Ed Pract* 2007;**92**:ep87–91.
- 2 **Walker GM**, Neilson A, Young P, *et al*. Colour of bile vomiting in intestinal obstruction in the newborn: a questionnaire study. *BMJ* 2006;**332**:1363–5.