British Association for Paediatric Nephrology

Antenatal Hydronephrosis (ANH): postnatal management

Draft Scope

1 Guidance title

Antenatal hydronephrosis: postnatal management

2 The remit

Management strategies for Antenatal hydronephrosis vary across the UK. The purpose of national guideline development is to reduce unwarranted variation in practice and facilitate an equitable approach to management.

3 Clinical need for the guideline

Antenatal hydronephrosis is a condition where one or both of a baby's kidneys are enlarged due to urine buildup in the womb, detected via prenatal ultrasound. It affects about 1 in 100 pregnancies and usually means the renal pelvis, the part of the kidney that collects urine, is dilated from retained urine.

Antenatal hydronephrosis can result from:

- Physiologic or benign dilation: a temporary, harmless stretching of the renal pelvis seen frequently on prenatal scans.
- Obstructions in the urinary tract at:
    - The junction between the renal pelvis and ureter (pelvi-ureteric junction obstruction, PUJ).
    - The junction between the ureter and bladder (vesicoureteric junction obstruction, VUJ, or megaureter).
- Urethral obstruction such as posterior urethral valves in males
- Vesico-ureteric reflux (VUR): urine flows backwards from the bladder to the kidneys, aggravating swelling.
- Ureteric duplication anomalies: two ureters from one kidney causing potential blockages or ureterocele (balloon-like obstruction).

Most cases are not inherited or related to maternal actions during pregnancy

ANH is diagnosed based on the anteroposterior diameter (APD) of the fetal renal pelvis. Many cases resolve before birth and cause no lasting problems, requiring only monitoring with repeat scans during pregnancy and postnatal check-ups.
A minority of babies may require further tests after birth or treatments including surgery (e.g., for obstruction or reflux) and / or monitoring for progression through later stages of chronic kidney disease (CKD). Rarely, babies with ANH have severe kidney disease and do not survive the pregnancy or early neonatal period, or may require dialysis in the first few days or weeks of life.

Guideline Content

The guideline will be developed according to UKKA standards for guideline development and in line with NICE and RCPCH standards for guideline development. Where evidence is lacking, a Delphi consensus process may be employed to increase the rigour of development of recommendations.

- This document is the scope. It defines exactly what this guidance will (and will not) examine, and what the guidance developers will consider.
- The areas to be addressed by the guideline are in the following sections.

4.1 Population

3.1.1 Groups that will be covered

Babies, children and young people with ANH

3.1.2 Groups that will not be covered

- Babies, children and young people with other congenital renal anomalies without hydronephrosis
- Babies, children and young people with acquired hydronephrosis e.g., secondary to tumour
- Adults with hydronephrosis

4.2 Healthcare settings and services

Primary and secondary care, in-patient (including neonatal units) and outpatient settings

4.3 Key areas

4.3.1 Clinical issues that will be covered

1 Definition of ANH based on threshold for renal pelvis diameter
2 Referral between healthcare teams following antenatal detection of ANH
3 Frequency of antenatal ultrasound scans for ANH
4 Antenatal counselling of families affected by ANH
5 Postnatal management of babies, children and young people born with ANH, including:
  - 5.1.1 Indications for, timing and frequency of postnatal imaging, including Ultrasound, DMSA, MCUG, MAG3
  - 5.1.2 Indications for preventer antibiotics
  - 5.1.3 Indications for referral for paediatric urology assessment and intervention
  - 5.1.4 Indications for surgery, including for PUV, VUR, PUJ and VUJ obstruction
  - 5.1.5 Location and frequency of follow-up and by whom
  - 5.1.6 Surveillance of:
    - 5.1.6.1 Blood pressure
    - 5.1.6.2 Urine albumin: creatinine
    - 5.1.6.3 Tests of kidney function and electrolytes

4.3.2 Clinical issues that will not be covered

Antenatal interventions for ANH
Management of complications of ANH, e.g., hypertension, proteinuria, urosepsis, chronic kidney disease

4 Clinical questions

5.1 What is the definition of ANH based on threshold for renal pelvis diameter?
5.2 Which antenatal findings in the kidneys and urinary tract, should trigger referral for postnatal management?
5.3 Which healthcare teams should receive a referral following antenatal detection of ANH?
5.4 Which, if any, findings on antenatal ultrasound, should impact the preferred place of delivery?
5.5 How often should antenatal ultrasounds be performed once ANH has been detected?
5.6 Which families affected by ANH should be offered antenatal counselling?
5.7 In babies born with ANH do preventer antibiotics improve outcomes (kidney damage, urinary tract infection), compared with no antibiotics?
5.8 What imaging investigations should be undertaken in babies, children and young people born with ANH and what should the timing be?

5.9 Where and when should babies, children and young people with ANH be followed up?

5.10 What is the recommended frequency of surveillance for:

5.10.1 Blood pressure

5.10.2 Urine albumin: creatinine

5.10.3 Tests of kidney function and electrolytes

6 Related guidance

NICE guidance on chronic kidney disease: Overview | Chronic kidney disease: assessment and management | Guidance | NICE

7 Further information

5 References

7.1 Antenatal hydronephrosis | infoKID

7.2 Glover J, Pahari S, Van der Voort J. The clinical significance of severe unilateral antenatal hydronephrosis. *Archives of Disease in Childhood* 2012;**97:**A164-A165

7.3 Sinha A, Bagga A, Krishna A, Bajpai M, Srinivas M, Uppal R, Agarwal I. Revised guidelines on management of antenatal hydronephrosis. Indian J Nephrol. 2013 Mar;23(2):83-97