

Evaluation of Newborns with Preauricular Skin Lesions

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Clinical Question

What is the appropriate evaluation of a newborn with apparently isolated preauricular skin lesions (tags or pits)?

Evidence-Based Answer

All newborns should be screened for hearing loss, whether or not they have preauricular skin lesions. Newborns with these anomalies may be at increased risk of hearing impairment. (Strength of Recommendation [SOR]: C, based on small observational studies and expert opinion.) Although there is a reported association between renal tract abnormalities and isolated preauricular skin lesions in infants, studies that have used renal ultrasonography to evaluate these patients are inconclusive. Physicians should not perform renal imaging on newborns with preauricular skin lesions unless they have other congenital malformations. (SOR: C, based on small, observational, disease-oriented studies.)

Evidence Summary

Preauricular skin lesions are congenital anomalies found anterior to the tragus. These lesions manifest as protuberant fleshy papules (tags) or superficial dimples (pits), and may be unilateral or bilateral, multiple or solitary. They are thought to result from imperfect fusion of the first two branchial arches during embryonic formation. Preauricular skin lesions are a relatively common anomaly, with a prevalence of five to 10 per 1,000 live births.¹ They are generally regarded as minor abnormalities with only cosmetic consequences. In some infants preauricular skin lesions are discovered in the presence of other morphologic malformations, such as cleft palates, ocular coloboma, hand and digit abnormalities, or heart defects. In these patients, careful assessment

and workup for congenital anomaly syndromes are warranted.²

Research on the possible connection between preauricular skin lesions, hearing loss, and renal abnormalities in newborns is sparse. In addition, published studies are limited by small numbers of patients, observational design, and lack of appropriate comparison groups.

In a prospective study of 23 newborns with preauricular skin lesions, four (17 percent) had abnormal findings on brain-evoked response audiometry.¹ Another study of 178 newborns with isolated preauricular tags found that 23 (13 percent) had mild to moderate sensorineural hearing impairment.³ The estimated prevalence of hearing impairment in all newborns ranges from 0.4 to 0.6 percent.¹⁻³

Evidence on the relationship between isolated preauricular lesions and renal abnormalities (e.g., renal agenesis, cystic kidney disease, hydronephrosis, duplicated ureters, megaureter, vesiculoureter reflux) is conflicting. In the prospective study above, findings from renal ultrasonography performed on infants with preauricular lesions were normal.¹ A prospective study involving 92 infants also found no statistically significant difference in the prevalence of renal abnormalities in those with preauricular lesions compared with infants in the control group (2.2 versus 3.1 percent).⁴ The largest study, which involved 100 newborns with isolated preauricular tags and a control group of 100 paired infants, supported these findings; the prevalence of renal abnormalities was 2 percent in both groups.⁵ In contrast, one study of 70 newborns with isolated preauricular skin tags and a comparison group of 69 newborns with no preauricular lesions found a statistically significant increased

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risk of urinary tract abnormalities in those with lesions (8.6 versus 0.0 percent; $P < .02$).⁶ A retrospective chart review of 42 infants with ear anomalies who had renal ultrasonography found that 12 (29 percent) had concomitant renal abnormalities.² Of these 12 infants, 11 (92 percent) had multiple congenital anomalies, whereas only one (8 percent) had an isolated ear defect. The estimated prevalence of congenital renal anomalies in all newborns ranges from 0.03 to 0.16 percent.⁷

Recommendations from Others

The American Academy of Pediatrics endorses universal screening to assess for hearing loss in all newborns as outlined by the Joint Committee on Newborn Hearing, regardless of the presence or absence of preauricular skin lesions.⁸ Currently, there are no recommendations or guidelines about the role of renal ultrasonography in screening infants with isolated preauricular lesions. An online textbook states that the presence of isolated preauricular skin lesions in newborns does not confer a significantly increased risk of renal anomalies, and that routine renal ultrasonography is unnecessary unless the patient has other major malformations or signs of multiple congenital anomalies.⁹

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