

Detection of female genital tract abnormalities in antenatally detected Fetal Unilateral Renal Agenesis

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Affiliations

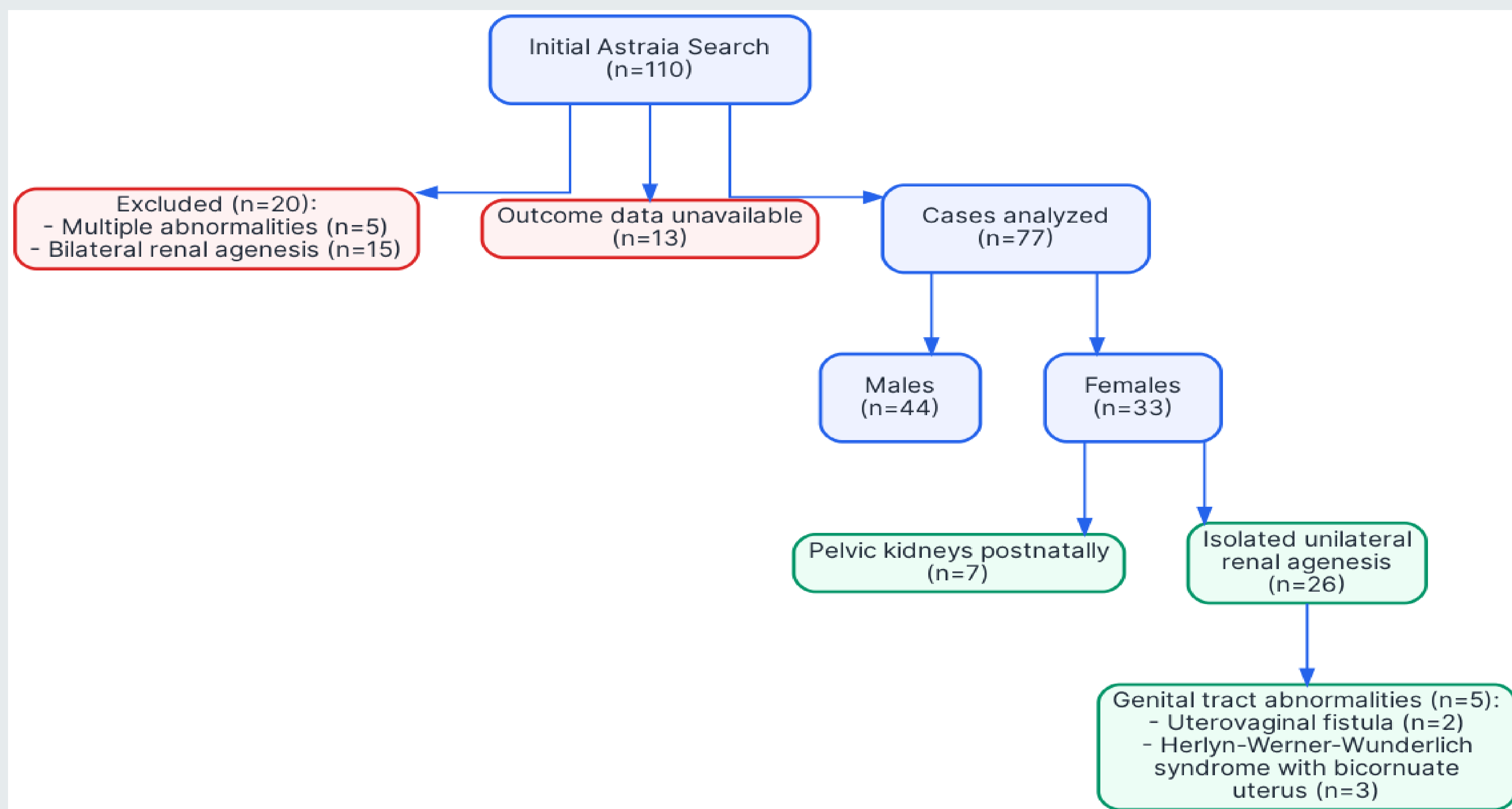
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Introduction

Renal agenesis refers to the complete absence of kidney tissue on one or both sides. Unilateral renal agenesis is found in approximately 1 in 2,000 births, while bilateral renal agenesis, which is lethal, occurs in about 1 in 5,000 newborns. In female population, unilateral renal agenesis is associated with genital tract abnormalities, which may cause problem in childhood and adolescence.

Aim

To determine the prevalence and characteristics of antenatally identified fetal unilateral renal agenesis and associated female genital abnormalities in a large cohort.

Materials and Methods

Ultrasound database astraia was searched to identify cases of unilateral renal agenesis from 2005 to 2024 detected antenatally before birth. All cases underwent systematic assessment through prenatal screening and postnatal confirmation via ultrasound at 6

weeks of life. Data including antenatal features such as associated fetal abnormalities and postnatal data, including the gender, postnatal ultrasound findings and detection of associated congenital abnormalities, including female genital tract abnormalities.

Results

The initial Astraia search identified 110 cases of renal agenesis. Of these, 5 cases with multiple abnormalities and 15 cases of bilateral renal agenesis were excluded. Outcome data was unavailable for 13 cases. The remaining 77 cases consisted of 44 males and 33 females. Among the 33 female fetuses, 7 were identified as pelvic kidneys postnatally, with no additional abnormalities present. In the group of 26 female cases of isolated unilateral renal agenesis, 5 (19%) were found to have associated genital tract abnormalities, which included uterovaginal fistula (n=2) and Herlyn-Werner-Wunderlich syndrome with a bicornuate uterus (n=3), all identified at 6 weeks postnatally.

Conclusions

This comprehensive analysis reveals a substantial association between renal agenesis and female genital abnormalities, with 19% of included female babies with isolated unilateral renal agenesis, presenting with concurrent genital tract malformations. These findings emphasize the critical importance of thorough gynaecological screening in female with renal agenesis and counselling parents. The identification of various complex urogenital anomalies underscores the need for a multidisciplinary approach to patient care, commencing in prenatal period.

