



Ischiopagus Conjoined Twins: Case Report

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Clinical History

Nine months old infant with clinically evident conjoined twins. Number (1) infant shows morphologically complete built and maturation. The other one is incomplete, with only seen two legs, rudimentary hand, and a penis with deformed scrotum [a total of 2 penises]. Both twins are seen fused ventrally at the pelvic region of the complete one.

Imaging findings

There's duplication of both lower limb's bones; namely: femoral, tibial, fibular, and foot bones.

- The laterally located lower limbs are of the complete infant; showing iliac, pubic and ischial ossification centers.
- The abnormal lower limbs (of the incomplete twin) are seen medially placed, being flexed and directed upwards, showing bilateral ischium and pubic bones ossification centers, yet no iliac bones ossification center noted. Absent both femoral heads with acetabular dysplasia.

A rudimentary single upper limb bones (radial ray, metacarpophalanges) are seen arising anteriorly at the pelvis with a segmented bizarre looking bony arch arising laterally from it.

Discussion

Background

Conjoined twins are a type of mono-zygotic twin in which the embryonic division fails to occur during days 13 to 15 post-conception [1,2].

They are an infrequent incident without an exact prevalence, although prevalence is reported to vary from 1 in 50000 to 1 in 100000, showing a higher incidence in females in Asia and Africa [3-5].

The most widespread classification of conjoined twins is based on the place where they are united.

Clinical perspective

This 9-month-old patient was recently presented in July 2020. The clinical history as per parents was quite vague. They stated they're seeking surgical operation for their baby. Only pelvis X ray was requested and performed. Unfortunately, antenatal care wasn't available for the patient's mother.

Imaging perspective

The conjoined twins are usually discovered during prenatal ultrasound [3]. There's no modality of choice, nevertheless a combination of ultrasound and MRI may be of a good benefit for prenatal diagnosis [6]. Postnatal imaging aims mainly to delineate the complexity of fusion and its site and if there's possibility of (shared) organs, as well as vasculature and innervation.

Outcome

The prognosis and outcomes of the corrective surgeries depend on many factors, like degree of fusion, site of fusion, time of the operation postnatally and general condition of the neonate or child. Imaging plays a pivotal role in surgery planning, especially combination of various modalities and images reconstructions [7].

Take home message/teaching points

- Conjoined twins are a rare occasion.
- The ischiopagus type (ventral pelvic fusion) is very rare type with about 5% prevalence.
- It's classified according to the most prominent site of inter-connection.

Final diagnosis

(conjoined twin) with ventral pelvic fusion (ischiopagus).

Differential diagnosis list

- Omphalopagus, xiphopagus: ventral abdominal fusion.
- Pygopagus: dorsal sacral fusion

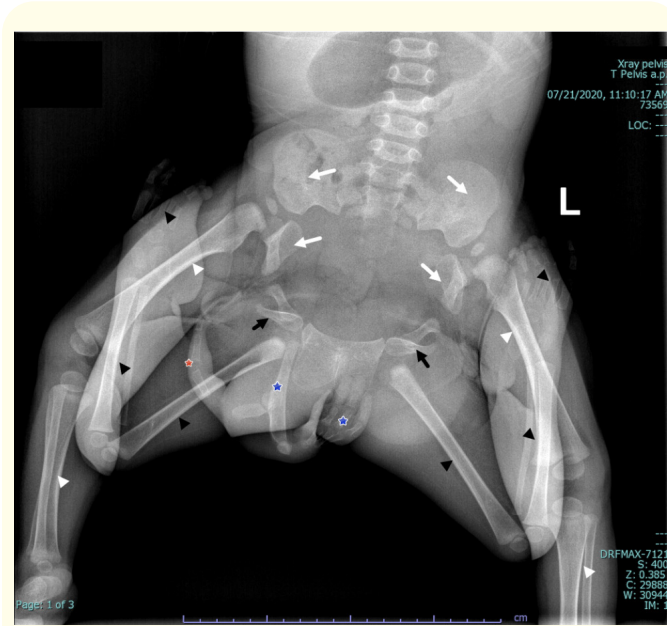


Figure 1: Pelvic x ray of the child, showing:

- White arrow heads: Femur, tibia and fibula of the complete baby.
- White arrows: Ilium, pubis and ischium of the complete baby.
- Black arrow head: Femur, tibia and fibula of the incomplete baby.
- Black arrows: Pubis and ischium of the incomplete baby.
- Blue asterisk: Single upper limb bones (radius, hand bones)
- Red asterisk: Abnormally segmented curved bone arising from the bones of upper limb.

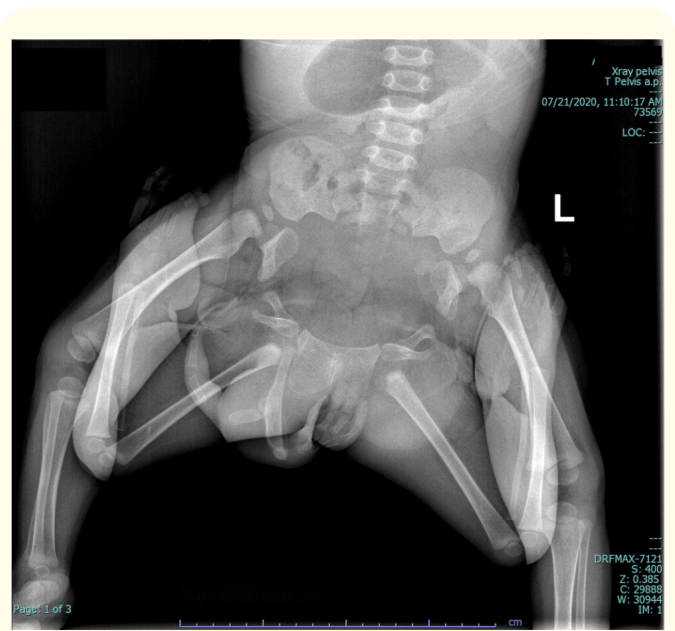


Figure 2: Pelvic x ray of the child (unannotated).

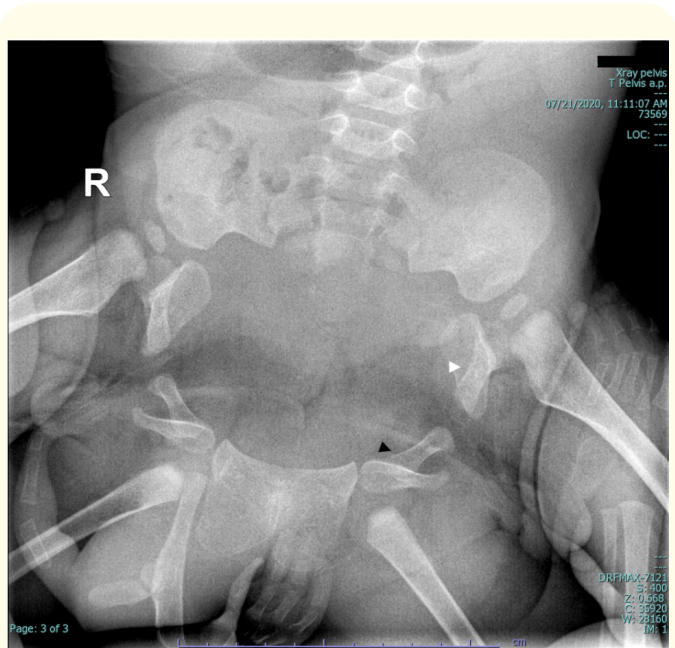


Figure 3: Spot on pelvis, showing: (white arrow head: pubis and ischium of the complete baby), (black arrow head: pubis of the incomplete one; being probably shared with the other one).



Figure 4: Photo of the baby:

- White arrow heads: Lower limbs of the complete baby.
- Black arrow head: Lower limbs of the incomplete baby.
- Blue asterisk: The abnormally shaped single arm.
- Red asterisk: The abnormally segmented curved structure arising from the arm.



Figure 6: Photo of the baby: general appearance of the anomaly; all limbs are seen moving



Figure 5: Photo of the baby: general appearance of the anomaly.



Figure 7: Photo of the baby:

- Black arrow head: Lower limbs of the incomplete baby.
- Blue asterisk: The abnormally shaped single arm.
- Orange arrowhead: Two penises of the complete and incomplete babies.



Figure 8: Photo of the baby: appearance of the bizarre shaped single arm, with the abnormal curved structure arising from it.

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