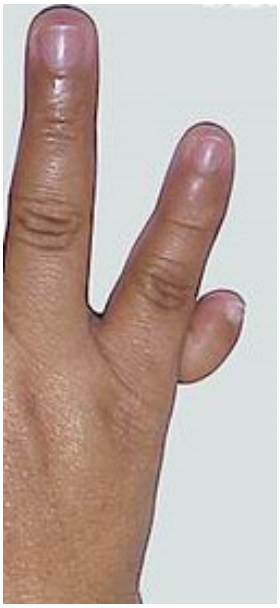
Polydactyly

OVERVIEW



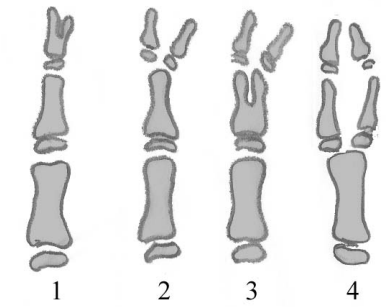
Your child has been diagnosed with polydactyly, which means "extra digits." Polydactyly is one of the most common congenital hand anomalies. Polydactyly occurs early in fetal development, when fetal tissues are separating to form the hand and each of the fingers. As the tissues separate, for some reason, an extra "segment" is created. This may be caused by a genetic abnormality or by environmental influences. The extra digit can lead to functional problems and cosmetic concerns. Some very small extra digits can sometimes be treated with suture ligation. Most are treated with surgical removal of the extra digit, usually after 12 months of age when anesthesia is safer.

BACKGROUND

The cause of polydactyly is not known. It is mostly commonly found at the level of the proximal phalanx of the thumb or the little finger. It can occur on one hand or on both hands. This abnormality can run in families with an autosomal dominant inheritance pattern, but this is very uncommon.

Polydactyly can occur in different locations. There may be an extra thumb, an extra small finger, or less commonly, an extra digit in the central part of the hand. Preaxial polydactyly means that there is an extra thumb. Postaxial polydactyly means that there is an extra small finger. Central polydactyly means that the extra digit is in the central part of the hand. There may be a well-formed extra finger, which appears pretty normal or the extra finger may be just a poorly-formed extra digit attached by a thin stalk of soft tissue.

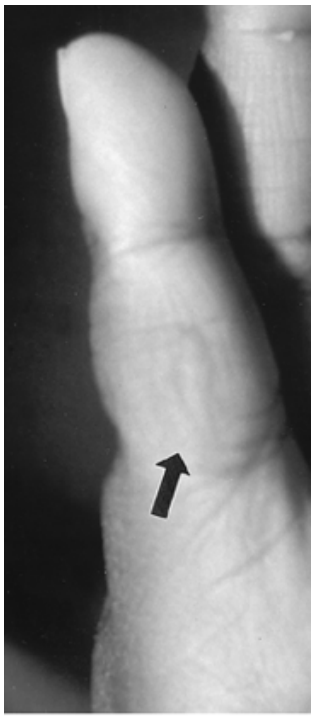
Polydactyly can occur in any newborn infant. Postaxial polydactyly with a small, poorly-formed extra digit is ten times more common in African-Americans than in Caucasians and is inherited as an autosomal dominant trait. However, postaxial polydactyly with a well-formed extra digit is equally common in all ethnicities.



DIAGNOSIS

Polydactyly is diagnosed by physical examination showing the extra finger. It is usually discovered when or shortly after the child is born. X-rays are not needed for rudimentary digits that can be treated with surgical ligation. For more developed digits, x-rays are obtained prior to surgery to better assess the bony structure.

TREATMENT



In postaxial polydactyly, when the extra digit is attached only by a narrow stalk of soft tissue, this may be removed either with a minor operation or, if the stalk is narrow enough, by ligating the stalk in the newborn nursery. Ligation means that a suture is tied around the base. The extra digit gradually becomes dry tissue and falls off, similar to the way the umbilical cord is clamped and eventually dries and falls off.

When the extra digit is well-formed, the treatment is more involved and may involve reconstruction of soft tissues, tendons, and the involved bones or joint. Careful attention is also paid to the small blood vessels and nerves to minimize risk of bleeding and to divide the nerve in a location that will not lead to sensitivity.

When surgery is required, it is typical to wait until approximately 12 months of age. The risks of anesthesia at this age are much less.

EXPECTED OUTCOMES

If the surgeon maintains a careful surgical technique, the incidence of complications should be low. There is always a residual scar, but usually it is small and not problematic. Some have a prominent scar. The nerve, if not well buried, can form a small neuroma, with sensitivity to touch. This is very uncommon and the excision site can be revised if needed.

MORE INFORMATION

Further information can be obtained on the internet. Your local public library can help you explore these sources if you are interested. Two good sites for expert and peer reviewed information are the American Academy of Orthopedic Surgeons at www.aaos.org and the Pediatric Orthopedic Society of North America at www.orthokids.org.