Ecuador & Developmental Dysplasia of the Hip

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TCH UC Family Medicine Residency Global Health Project
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I participated in a global health elective in Ecuador with a group called Interhealth South America. The group was composed of primarily 2nd year medical students, along with a few residents and 4th year medical students. We spent the majority of our time in Quito, as well as a week in Otavalo, where more of the indigenous community was living. We spent time studying medical Spanish, gaining a better understanding of the Ecuadorian healthcare system, learning about some of the traditional methods of healing, and participating in health brigades within both Quito and Otavalo.

This trip gave me the opportunity to learn more about Latin American culture, as well as the health and healthcare of the Ecuadorian citizens in the context of this culture. Within the more urban setting of Ecuador, there are many similarities between their healthcare and ours here in the US. However, even in the more modern cities, there is an increased prevalence of certain conditions that we do not commonly see in the United States. According to a Pediatrician with whom I worked in Quito, one of these conditions is developmental dysplasia of the hip.

One particular case I came across was patient ANRR, a 6-month-old female with bilateral developmental dysplasia of the hip. At the time of presentation to the clinic, she had been treated with a Pavlik harness (the treatment of choice for infants </= 6 months) for the past month. Prior to treatment, the patient's mother reported that she had pain with manipulation of the hips, as well as inability to abduct at the hips. A local pediatrician had suspected this condition when the patient was 5 months old and confirmed his suspicion with X-ray. Typically, ultrasound is used to diagnose infants <6 months with dysplasia and X-ray is commonly used in infants >6 months and in children. The Pavlik harness, the treatment used in patient ANRR, has a 95% success rate for acetabular dysplasia or subluxation. However, the success rate is decreased to 80% for frank dislocation. Children older than 6 months generally require closed reduction (under anesthesia) with hip spica casting.

The USPSTF and AAP do not recommend routine screening for DDH, either by physical exam or with imaging. Their reasoning is that 60-80% of DDH identified by physical exam and 90% of DDH identified in ultrasound will resolve spontaneously and require no intervention. This recommendation is interesting, because both Pediatricians and Family physicians tend to screen for DDH on physical exam as a regular part of their well child checks. However, untreated hip dysplasia can lead to premature degenerative changes and development of painful arthritis in patients' 30's. This information encourages me to continue screening for this on physical exam, especially when the treatment involves wearing some sort of device to correct this abnormality. It seems that in this case, the benefits of screening and treatment with a harness would outweigh the risks of screening and treatment.

After seeing our patient with DDH in Ecuador, I spent some time discussing this condition with the Pediatrician with whom I was working in the clinic that day. She informed me that the incidence of DDH was much higher not only in South America, but especially in Ecuador. While this may or may not be the case, the search for evidence to support this claim led to another interesting finding; the incidence of bilateral DDH is much higher in South America than any of the other locations reported. The majority (~70%) of DDH cases in South America were bilateral, as opposed to the majority of cases in the other locations studied, which were all unilateral. It has been suggested that certain methods of swaddling can contribute to DDH. This may be an explanation for the increased incidence of bilateral DDH in South America, given the high incidence of swaddling our group observed in the indigenous populations within Ecuador. According to an AAP news brief in 2011, swaddling in infants with hips fully extended and adducted can cause hip subluxation and dislocation (SEE FIGURE). Although swaddling in general remains a somewhat controversial topic, proper swaddling can still be taught, especially to indigenous populations who will most likely continue to swaddle out of necessity (as a means for transportation of the infant). When educating this population abut swaddling, it is important to emphasize that hips should be slightly flexed and abducted, with knees in slight flexion as well. There should also be a substantial amount of room within the blanket to allow for free movement of the infants' legs.

When I return to South America, I plan to include proper swaddling technique in my sessions with patients, specifically the indigenous patients who continue to swaddle their infants. If this simple intervention could lead to even a minor decrease in the rate of DDH in this population, it is certainly worth dedicating some time to teaching this topic.

FIGURE REFERENCE:
http://www.metrokids.com/MetroKids/January-2014/Safe-Swaddling/.
Accessed 12/7/2015.

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http://hipdysplasia.org/developmental-dysplasia-of-the-hip/hip-healthy-swaddling/