

Case #2 – 3 year old male with bruising

Child's mother brought him to the ED when she noticed bruising on return home from a visit to his father for the weekend. The bruises were described as located "on his anterior and medial thighs, penis and scrotum, and a handprint-shaped bruise on the abdomen" and because of the location this raised concerns about physical abuse.

A skeletal survey was done and the interpretation was no evidence of fractures or healing fractures. Drug screens were negative. Sexually transmitted infection studies were negative. The urine showed some small amount of urine hemoglobin, but was otherwise normal.

Because the bruising was over the abdomen several blood tests were done to identify possible organ injury or easy bleeding. These blood tests included LFTs (liver function tests), amylase (pancreatic enzyme), chemistries (electrolytes, kidney function, etc.), CBC (complete blood count, hemoglobin, etc.) and coagulations (blood clotting studies). All were within normal limits for child's age.

Photos taken in ED confirmed the bruising described above particularly the outline of a hand on the abdomen with the reddened areas between the fingers where the capillaries rupture. There was extensive red/brown bruising covering about 2/3 of the scrotum and the underside of the penis adjacent to the scrotum. The bruises on the inner and top part of the thighs are scattered and some are more rounded and others more linear. This could also be consistent with fingers or hand markings.

There are two significant historical findings – one social and one medical – that impacts on determining the cause of the bruising.

The mother's history is that "the father has a history of physically and sexually abusing her, but no history of abusing the patient or his siblings." The history of violence coupled with the bruising consistent with being hit or slapped on the abdomen, genitals and legs makes this likely that the bruises are the result of physical abuse and/or inappropriate discipline. It is possible that the scrotal and thigh bruises are the result of sucking (hickeys), but the handprint on the abdomen suggests all of the bruising could have been caused by smacking or hitting the skin directly.

The child also has a history of Henoch-Schonlein purpura (HSP) 5 months ago. HSP (Henoch-Schonlein purpura) vasculitius usually occurs in children less than 7 years old and presents with skin lesions (and perhaps other symptoms like fever abdominal pain, joint pain, blood in the stools). The skin lesions may start like a hive-like lesion (red slightly swollen, etc.) and may then develop a very red, hemorrhagic center that can look like a spider bite. More often there is a reddish rash that starts out small areas and then coalesces to larger areas forming large purpuric (reddish/blue bruise-like) areas. The rash resolves just as a bruise would by turning brown, then yellow, and fading over several days. The rash is typically on the legs and buttocks but can be anywhere. The illness can last for 4 - 6 weeks and about half the cases can have relapse usually within 6 weeks of seeming resolution.

If the bruises were only those seen in the photos on the thighs, it would be possible this was just a recurrence of the HSP vasculitius rash. The handprint on the abdomen might have been easier to produce because of a vasculitius, but still indicates being slapped. The scrotum bruising is not generally described with HSP – more often it is in the buttocks area. Again, a vasculitius might make it easier to produce the redness and bruising with slapping or pinching.

The only way to definitely know if there is a vasculitius present is to do a skin biopsy to see if there is inflammation (as would be seen in a vasculitius) or blood products being reabsorbed (as would be seen with typical bruise resolution). I am not sure if a biopsy should necessarily be done, because again there is already evidence that the child was slapped at least on the abdomen sufficient to leave a 'handprint' whether he has vasculitius or not.

The child is over 3 years old and if his speech/language is developmentally normal may be able to tell what happened if interviewed appropriately.

Without more information, at this time my opinion is that these bruises are the result of physical abuse and are perhaps more prominent than usually seen because of the history of HSP and the possibility of recurring vasculitius.