THE AUSTRALASIAN COLLEGE
OF DERMATOLOGISTS

Subcutaneous fat necrosis of the newborn

What is subcutaneous fat necrosis of the newborn?

Subcutaneous fat necrosis of the newborn is a type of fat inflammation (panniculitis). It is a rare and transient condition that results in the development of red, firm and deep lumps in the fatty layer of the skin. Subcutaneous fat necrosis of the newborn typically affects full-term neonates in the first 2-3 weeks of life. The prognosis is generally favourable and treatment unnecessary.

What causes subcutaneous fat necrosis of the newborn?

Subcutaneous fat necrosis mainly affects the brown fat in neonates. Brown fat is a type of fat that helps to generate heat under cold conditions.

Triggers of subcutaneous fat necrosis of the newborn may include:

- Cold body temperature (e.g. exposure to cooling blankets, during surgical procedures)
- Low blood sugar levels (e.g. gestational diabetes)
- Inadequate tissue oxygen supply (e.g. meconium aspiration, placenta previa, umbilical cord prolapse or pre-eclampsia)
- Obstetric trauma (e.g. forceps delivery)

However, most babies who are exposed to these triggers do not get subcutaneous fat necrosis.

What does subcutaneous fat necrosis of the newborn look like?

The rash usually looks like red, firm and deep lumps or large areas of raised skin. The cheek, shoulders, back, buttocks and thighs are the most commonly affected body sites.

What other problems can occur with subcutaneous fat necrosis of the newborn?

The most important complication of subcutaneous fat necrosis of the newborn is high calcium levels (hypercalcemia). This may develop either during the acute phases of the condition or delayed for up to months later. Hypercalcemia may be completely asymptomatic or be associated with fevers, irritability, vomiting, seizures, increased urination, vomiting, kidney problems and even death if severe.

Other problems that rarely may occur include:

- Low platelet levels (thrombocytopenia)
- High fat levels (hypertriglyceridemia)
- Low haemoglobin levels (anaemia)

How is subcutaneous fat necrosis of the newborn diagnosed?

The diagnosis is usually made by a dermatologist. A skin biopsy may be taken to confirm the diagnosis, which would show inflammation of the fat in a pattern called “lobular panniculitis”.

2020 © Australasian College of Dermatologists.
You may use for personal use only. Please refer to our disclaimer.

How is subcutaneous fat necrosis of the newborn treated?

The condition tends to resolve spontaneously within 6 weeks without treatment. If severe, systemic steroids can be used to control the inflammation. Longitudinal monitoring of calcium levels (for at least 4 months) is recommended.

What is the likely outcome of subcutaneous fat necrosis of the newborn?

The prognosis of subcutaneous fat necrosis of the newborn is overall favourable. Rarely, some lesions may end up shrunken-looking (atrophic) or slightly pigmented. As mentioned, hypercalcemia needs to be monitored even after the disappearance of the skin lesions.

This information has been written by Dr Cathy Zhao and Dr Li-Chuen Wong

2020 © Australasian College of Dermatologists.
You may use for personal use only. Please refer to our disclaimer.