

Scar Hyperpigmentation in Pregnancy

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Background

- A variety of pigmentation changes occur in >90% of pregnant women
- Little is known about the effect of pregnancy on wound healing and scars post-burn

Patient case

- 38-year-old pregnant Afghani woman in her 1st trimester sustained a 1.5% TBSA scald to her left calf
- Managed conservatively and healed at 15 days
- At 3 months a flat, significantly hyper-pigmented scar was seen, despite strict sun avoidance

Literature review

Immunosuppressive impact

- A strong immunosuppressive response occurs during the 1st trimester to allow implantation and placentation - this can prolong healing

Hormonal impact – wound healing

- Many cell types express oestrogen and progesterone receptors
- Oestrogen and progesterone modulate the inflammatory phase of wound healing – particularly through macrophage activation and are mitogenic for keratinocytes and fibroblasts, accelerating re-epithelisation and synthesis of the extracellular matrix

Hormonal impact – scar hyperpigmentation

- Steroid hormones are melanocyte stimulators - oestrogen and progesterone have a greater influence on melanocyte stimulating hormone than testosterone

Burn wound 48h post-injury



Scar 3 months post-injury



Discussion

- No reported cases describe a similar phenomenon to our patient
- Limited evidence exists on the impact of pregnancy on scar hyperpigmentation, cosmetics and wound healing
- Several studies have made connections between immune and hormonal changes that occur during pregnancy and the impact on wound healing and melanocytic stimulation
- Whether pigmented scars formed in pregnancy become less pigmented post-partum and on cessation of breast feeding is not clear