

Multiple sites acquired lipodystrophy in two siblings: a rare adverse effect of intramuscular triamcinolone

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DESCRIPTION

A 4-year-old boy presented with focal depression over the bilateral buttocks and right arm for the past one and half months. The depression was non-progressive in nature since it was noticed and was not associated with pain and itching. When history was reviewed, we found that child had multiple papular, itchy lesions over the dorsum of hands, lower abdomen, inguinal and pubic area, and over the upper part of thighs (probably he had scabies) 3 months back. He was shown to a local unqualified clinician (quack) who gave him intramuscular triamcinolone (dose not known) once a day for 4 days over bilateral buttocks and arms. His younger sibling (2-year-old boy) also had similar skin lesions and he too received intramuscular triamcinolone for 4 days and developed focal depression of skin over the right arm and bilateral buttocks. He was born to non-consanguineous parents with unremarkable family history. There was no history suggestive of recurrent boils, acupuncture and chronic inflammatory conditions in both the siblings.

Examination revealed that depressed plaques (slightly hypopigmented to adjoining skin) were observed over bilateral buttocks and lateral aspect of the right arm (figure 1A,B). Similar lesions were also seen in the younger sibling (figure 1C,D). The overlying skin was slightly hypopigmented without any signs of chronic inflammation and vasculitic changes. Antinuclear antibodies and HIV serology were negative in both the siblings. Both the children had normal blood sugar, HbA1c, C-reactive protein, erythrocyte sedimentation rate, and lipid profile. On the basis of temporal association with triamcinolone injection and loss of fat in injection site, a diagnosis of acquired lipodystrophy secondary to intramuscular injection was considered (Naranjo adverse drug reaction probability scale score was 5). Parents refused for skin biopsy and were counselled regarding the nature of the lesions. At 4-month follow-up, the lesions were non progressive in both the children.

The lipodystrophy syndromes are rare heterogeneous acquired or genetically determined disorders characterised by loss of underlying adipose tissue. It affects the entire body (generalised) or can involve certain parts of adipose tissues (partial). The genetic subtypes are congenital generalised lipodystrophy and familial partial lipodystrophy.¹ Acquired localised lipodystrophy is the most common subtype and occurs with various inflammatory conditions, connective tissue disorders, HIV infection, metabolic syndromes (diabetes mellitus, insulin resistance, dyslipidaemia, and hepatic steatosis), and intramuscular injections.¹

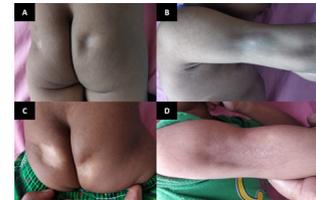


Figure 1 Hypopigmented depressed plaques over bilateral buttocks and lateral aspect of the right arm in the index case (A,B) and younger sibling (C,D).

Intramuscular injections that are associated with localised lipodystrophy are antibiotics (amikacin, gentamycin), steroids, vasopressin, growth hormone, insulin, and various vaccines.² The mechanism behind the partial loss of adipose tissue is largely unknown. The injecting drug may induce macrophage activation and cytokine release. Cytokine activation inhibits lipogenesis and increases lipid catabolism. Hypo-perfusion of the local site due to variation in blood supply also contributes to the development of lipoatrophy. Hisamichi and colleagues reported two Japanese individuals who were on intramuscular corticosteroids and developed partial lipodystrophy later. Immunohistochemical examination showed a decrease in the size of individual lipocytes and scattered macrophages in affected adipose tissue and surrounding connective tissue.³

Buttock and arm muscles are the common sites for intramuscular injections in older children and adults but they are less developed in toddlers and should be avoided for intramuscular injection. No specific treatment is available for this condition and it depends on the underlying aetiology. Parental and patient reassurance is the mainstay of the treatment and cosmetic procedures may be required in concerned individuals.

Learning points

- ▶ Acquired localised lipodystrophy can occur with various inflammatory conditions, connective tissue disorders, HIV infection, metabolic syndromes, and intramuscular injections.
- ▶ Buttock and arm muscles are less developed in toddlers and should be avoided for intramuscular injection.
- ▶ Parental and patient reassurance is the mainstay of the treatment and cosmetic procedures may be required in concerned individuals.



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