Read Item - Anagen Effluvium

Author: RD Sinclair
Date: 05/05/2000
Publisher/Journal:
Keywords: Anagen Effluvium, hair loss

Abstract: Anagen Effluvium for Doctors

Introduction

A direct toxic insult to rapidly dividing keratinocytes in the hair matrix produces an arrest of mitosis. Consequent to this abrupt interruption of hair growth, anagen hairs narrow, fracture and are shed en masse. The classical causes are cytotoxic drugs and radiotherapy.

Clinical features

The hair loss usually occurs within a few days of the insult. All the anagen hair on the scalp (about 85% of the total) are rapidly shed. The hairs do not come out with the bulb, but rather fracture at the base of the partially keratinised hair shaft. Light microscopy of plucked hairs shows either a tapered proximal end where the hair has fractured on extraction or a characteristic dystrophic root. Once the insult stops, the hairs are still in anagen and are able to recommence growth immediately. This is different to telogen effluvium where regrowth requires the hair to exit telogen and re-enter anagen.

Radiation induced anagen effluvium can be prolonged, as in addition to the disruption to mitosis causing immediate shedding, hairs enter catagen precipitating a telogen effluvium some months later, from which recovery is prolonged. Single doses of around 400cGy will produce a generalised shedding of anagen hairs in around 20% of subjects, and repeated doses will affect a greater proportion. If high doses (>1000cGy) are administered to the scalp permanent alopecia may occur.

Heavy metal poisoning with thallium in particular, is an easily overlooked cause of a diffuse anagen effluvium. Thallium availability is now restricted after a vogue in the 1960s when this colourless, flavourless, odourless agent was a popular hemlock. Acute graft versus host disease also sometimes produces an anagen effluvium, which must be distinguished from the effects or the preceeding chemoand X ray therapies. During the initial phases of a rapidly progressive alopecia areata anagen hairs are shed and this may produce a similar clinical picture.

Treatment

The commonest cause of anagen effluvium is drugs. Stopping the drugs produces a rapid recovery. Even cyclical chemotherapy regimens do not produce permanent alopecia. If hair loss is anticipated prior to a course of chemotherapy, ice packs producing local scalp cooling may lessen the amount of hair fall.

Key Points

Anagen effluvium produces a rapid and dramatic hair fall. It is due to cessation of mitosis in the bulb and fracture of the proximal shaft. Total alopecia is common but recovers rapidly once the trigger is removed.