those with short disease duration (≤ 3 months) showed better responses. In 60 patients treated with oral cyclosporine with corticosteroid, 30 patients (50.0%) showed a good response. AA type or disease duration, however, did not significantly affect the response to treatment.

**Conclusion:** Corticosteroid pulse therapy may be a more successful treatment option than combination therapy in severe AA patients with PF type.

Keyword: Alopecia areata, Corticosteroid pulse therapy, Cyclosporine

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**P190**

**Dermoscopic findings in radiation-induced alopecia after angioembolization**

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**Background:** Endovascular intervention is increasingly being used as the first choice of treatment for cerebral aneurysms or vascular lesions of the brain. Although cases of temporary alopecia after endovascular brain surgery have occasionally been reported, dermoscopic findings of these lesions have rarely been discussed.

**Objectives:** To evaluate the dermoscopic findings of alopecia lesions which developed after radiation exposure during angioembolization.

**Methods:** Seven patients presenting with an alopecic patch after angioembolization were enrolled in this study. Dermoscopic examination was performed to observe the characteristics of radiation-induced alopecia after an endovascular interventional procedure.

**Results:** Among the 7 patients, the mean age was 54.1±14.1 years and the mean duration of alopecia lesions were 6.9±9.3 weeks. Most alopecic lesions showed a rectangular shape, presenting both at the occiput and temple area which may be related to the 3-dementional exposure of radiation, and the position of patient during procedure. Yellow dots were the predominant dermoscopic finding observed in 71.4% of the patients followed by black dots.

**Conclusion:** Alopecia lesions induced by radiation exposure during angioembolization shares common characteristic dermoscopy findings with alopecia areata and can be misconceived as alopecia areata without precise history taking. Its acute course and configuration, together with non-inflammatory biopsy results can help distinguish these two lesions.

Keyword: Alopecia, Angioembolization, Radiation

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**P191**

**Distribution and maturation of integral hair lipid based barrier in human hair follicle according to the hair keratinization**

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**Background:** Integral lipid (IL) is bound to the keratinized cell surface to make an environmentally resistant lipid envelope. ILs are synthesized and stored in granules that are known as lamellar granule (LG), which are extruded into the extracellular space in the upper granular layer during cornification.

**Objectives:** To provide baseline data for IHL and LG ultrastructural localization and maturation in the hair follicle.

**Methods:** In this study, we examined distribution and maturation of IHL and LGs in human hair follicle according to the hair keratinization.

**Results:** IHL is mainly positioned on the hair cuticle and inner root sheath (Henle’s layer, Huxley’s layer, inner root sheath cuticle). LG is mainly positioned on the Henle’s layer, Huxley’s layer, while it is not observed on the hair cuticle.

**Conclusion:** This study is considered to provide baseline data for the studies on IHL and LG ultrastructural localization and maturation in the hair follicle, and more studies will be required to examine the roles and the functions of the IHL in the hair biology.

Keyword: Integral lipid, Lamellar granule, Ultrastructural localization and maturation, Hair follicle

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**P192**

**Effect of recombinant growth factors mixture on hair growth promotion in vitro and in vivo**

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