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## Hair regrowth following fecal microbiota transplantation in an elderly patient with alopecia areata: A case report and review of the literature

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### Abstract

**Background:** Alopecia areata is a hair loss disease associated with genetics, autoimmunity, and other factors. There is an intriguing link between alopecia areata and gut dysbiosis. Fecal microbiota transplantation (FMT) has been recommended to treat *Clostridium difficile* (previously known as *Clostridioides difficile*) infection, and has also shown potentials in the treatment of inflammatory bowel disease, irritable bowel syndrome, and non-alcohol fatty liver disease.

**Case summary:** An 86-year-old man, with a history of sigmoid colon carcinoma, suffered from recurrent abdominal pain and distension, and diarrhea for six months, with inappetence. At admission, he was also diagnosed with depression. Upon physical examination, the patient presented with a 1.5 cm × 2.0 cm alopecia areata on his right occiput. Due to the negative results of laboratory testing, capsule endoscopy, and colonoscopy, the patient was diagnosed with noninfectious diarrhea, depressive disorder, and patchy alopecia areata. Considering that noninfectious diarrhea in the elderly patient was mainly caused by gut dysbiosis, he was given six rounds of FMT. His diarrhea improved remarkably one month after FMT, with improved appetite and disappearance of abdominal pain, distension, and depressive symptoms. Surprisingly, he reported new hair growth on the affected region of his scalp, with some of his white hair gradually turning to black, without taking any other therapies for alopecia areata before and after FMT.

**Conclusion:** FMT might act as a potential therapy for patients who suffer from alopecia areata. Large and well-designed studies are required to confirm the role of FMT in alopecia areata.

**Keywords:** Alopecia areata; Autoimmune disease; Case report; Fecal microbiota transplantation; Gut microbiota; Psychopathogenesis.

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### Figures

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**Figure 1** Colonoscopy showing a normal colonic...



**Figure 2** Hair regrowth on an elderly...

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