

BSDS Travelling Fellowship Report

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Non-cultured cellular grafting for stable depigmenting disorders including vitiligo, piebaldism, halo naevi and post-inflammatory hypopigmentation has been reported to have good long term cosmetic results (1).

Professor Nanja van Geel is one of the pioneers of this surgical technique. As lead Dermatologist for the pigmentation disorders clinic in Ghent University Hospital, she has experience of over 700 cases over the last 14 years. In addition, she is active in clinical research in this field evidenced by her publications. There was no doubt she was the best to learn from. The opportunity arose when she accepted my request to shadow her following our brief meeting at the evidence-based update meeting on vitiligo in 2013.

Following numerous email exchanges, we were finally able to organise a mutual suitable date for training. As the cases were scheduled on Fridays fortnightly, I had to condense all my learning into one day. Following a two-hour ride on the Eurostar from St Pancras, London, I was in Brussels and within a further 30 minutes transfer on a SNCB train, I was in Ghent, Belgium. My attachment started promptly at 8 am when I was introduced to a theatre nurse who was preparing two surgical sets; one for harvesting donor skin and another to prepare the recipient site (de-epithelialised by CO₂ laser).

Three cases were lined up for the day, the first patient had symmetrical lower limb piebaldism, the second had stable but widespread vitiligo and the third was a facial vitiligo patient who was recruited into a randomised placebo-controlled trial using a new cell suspension preparation kit.

All three patients had their pigmented donor skin harvested consecutively using a hand-held Silver's knife and transported to the tissue lab based in a neighbouring building 200 metres away. Secondly, trypsin-EDTA was used to induce dermo-epidermal separation over 30 minutes in a 37°C incubator. Dermis was then removed manually using forceps and the remainder epidermal cells centrifuged for 5 minutes. The resulting cell pellet was reconstituted with hyaluronic acid and saline, making a viscous suspension. The suspension was then pipetted onto recipient depigmented skin site (prepared by precise removal of the epidermis using a CO₂ laser).

Success of this procedure requires a dexterous surgeon with attention to detail, skilful lab technician who prepares the cell suspension to high standards and an experienced theatre nurse who can assist the surgeon with donor skin harvesting, recipient site preparation and application of suitable dressings post-treatment. Two of the three patients had undergone the same procedure six months previously (now returning to treat other areas). It was evident that the technique produces excellent repigmentation rates even to a blinded observer (myself, prior to knowing their treatment histories). The crucial work prior to the day of my attachment should not be forgotten that patient selection remains crucial in ensuring high success rates; mainly stable disease (>1 year duration) documented photographically, with no history of Koebnerisation or predilection to poor wound healing.

I am very grateful to the BSDS for awarding me this travelling fellowship. In addition to learning this unique procedure, I witnessed how surgical research can be integrated seamlessly alongside daily practice with good planning and support of experienced and dedicated supporting staff. I look forward to using this technique to the benefit of our patients in future.



Left to right: Skilful lab technician (Matin), Professor Nanja van Geel, myself

References

- 1) Van Geel, N., Wallaeys, E., Goh, B.K., De Mil, M. and Lambert, J. (2010), Long-term results of noncultured epidermal cellular grafting in vitiligo, halo naevi, piebaldism and naevus depigmentosus. *British Journal of Dermatology*, 163: 1186–1193.