PTH-024 A MULTICENTRE EXPERIENCE OF SACRAL NERVE STIMULATION (SNS) IN SCLERODERMA FAECAL INCONTINENCE

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Introduction Scleroderma is a multisystem disorder of unknown aetiology leading to the deposition of excessive connective tissue in the skin, blood vessels and internal organs. GI involvement is present in 90% of cases and the prevalence of faecal incontinence is 38%. The predominant type of faecal incontinence is passive faecal soiling, related to connective tissue deposition and internal anal sphincter (IAS) dysfunction. The only published study of sacral nerve stimulation (SNS) in scleroderma enrolled five patients and reported that temporary SNS was successful in four, all of whom had complete resolution of their incontinence episodes following a permanent implant. The mechanism of SNS in this indication, and others, remains unclear.

The Aim was to assess the outcome on Wexner incontinence values (0–20) post temporary SNS in Scleroderma faecal incontinence.

Methods A retrospective analysis was performed on all scleroderma patients from our two centres who had undergone SNS for faecal incontinence.

Results A total of 10 female patients with a mean age of 54 (37–72) had temporary SNS performed. Faecal incontinence symptom duration ranged from 2 to 25 years. Each patient had pre-procedure anorectal physiology documenting internal sphincter atrophy/fragmentation, a reduced resting pressure and correlation with passive faecal incontinence symptoms.

Overall, there was no significant difference in the total mean Wexner incontinence scores obtained following temporary SNS procedures. Two patients with a significant improvement went on to have permanent SNS with only one patient achieving a favourable outcome at one year. The following table demonstrates pre and post procedure Wexner incontinence scores as a mean on the 10 patients:

Abstract PTH-024 Table 1

Mean Wexner Score (0 – 20)	Pre procedure	Post procedure
Solid (max 4)	2.0	1.6
Liquid (max 4)	3.1	3.0
Gas (max 4)	3.2	2.7
Pads (max 4)	3.4	2.9
Lifestyle (max 4)	3.4	2.9
Total 20	15.1	13.1

Conclusions This study shows that SNS in scleroderma passive faecal incontinence did not achieve favourable results in 9 of 10 patients. The proposed mechanisms of SNS are unlikely to be able to reverse the infiltrative changes of the internal sphincter seen in scleroderma.

Disclosure of Interest None Declared.

PTH-025 SNIFFING DISEASE? OPTIMISATION OF SAMPLE PREPARATION FOR VOLALITE ORGANIC METABOLOMIC STUDIES

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Introduction Colitis in both humans and rodents appears to alter the metabolome. Establishing the complete mouse faecal metabolome will aid studies of change in models of disease. The optimum method for such studies had not been described; we have optimised our sample preparation and developed a quantitative method. This will allow us to develop a mouse model that could potentially be translated for diagnoses and treatment in human disease.

Methods Optimisation was performed on 3, 5, 10 or 20 faecal pellets from C57BL/6 male mice (n = 4) and repeated 3 times. Volatile organic metabolite (VOM) profiles for each were analysed using SPME with a CAR/DVB/PDMS fibre and gas chromatography-mass spectrometry. This was done with careful control and monitoring of adsorption time (20 mins) and temperature (60°C) on the extraction yield during the assays. We also investigated the influence of acidification on the yield. The adsorption time of analytes in the fibre was studied testing 10, 20 and 30 minutes of extraction VOM from 10 pellets of mice faeces at 60°C.

Results ANOVA found a significant difference between sample of differing size; ($p < 0.01$); 10 and 20 pellets had most VOMs (37 and 44, respectively; NS); 10 pellets were used in later work (figure 1a). The addition of acid to faeces compared to untreated faeces produced similar chromatograms with slight increases in abundance and peak area of certain non-specific VOMs e.g. large chain organic acids (figure 1c). However, as this study aims to eventually determine disease biomarkers, at this point we do not want to influence the occurrence of specific VOMs from our samples. Varying the extraction time did not show any major differences in the quantity of VOMs identified between 10, 20 and 30 minutes, therefore our findings confirm what past literature using 20 minutes adsorption time have stated (figure 1b).

Conclusion We have optimised conditions for sample preparation to produce quantifiable and significant results. We are currently

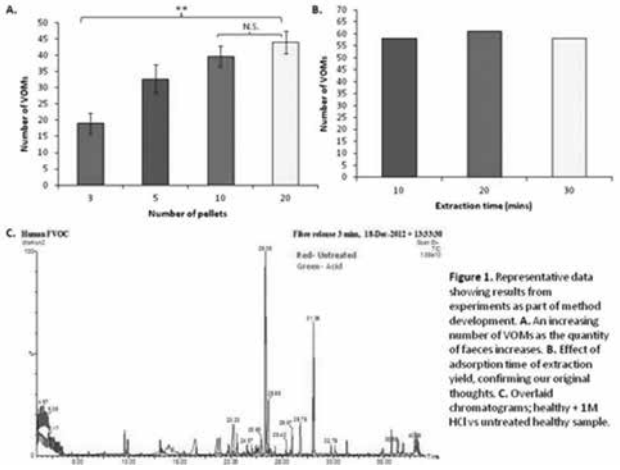

Figure 1. Representative data showing results from experiments as part of method development. A. An increasing number of VOMs as the quantity of faeces increases. B. Effect of adsorption time of extraction yield, confirming our original thoughts. C. Overlaid chromatograms; healthy + 1M HCl vs untreated healthy sample.

Abstract PTH-025 Figure 1