Service evaluation of a Physiotherapist-Led Botulinum Toxin (PLBT) injection therapy clinic

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The Walton Centre NHS Foundation Trust

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Introduction

- The Walton Centre NHS Foundation Trust is a specialist regional neurological and neurosurgical hospital in the United Kingdom where consultants have been treating patients with botulinum toxin injections since the 1980s for dystonia, and since 1992 for spasticity. Over the years waiting times for toxin injections have increased and patients have also had inconsistent access to physical therapy in their local area.

- The PLBT clinics are delivered by a Specialist Neuro-Physiotherapist who is able to inject botulinum toxin independently in clinic. These clinics increase the number of appointments available for botulinum toxin injections within the Trust and the Physiotherapist is able to give advice regarding post-injection therapy and co-ordinate follow up with local therapy services to improve the quality of the service.

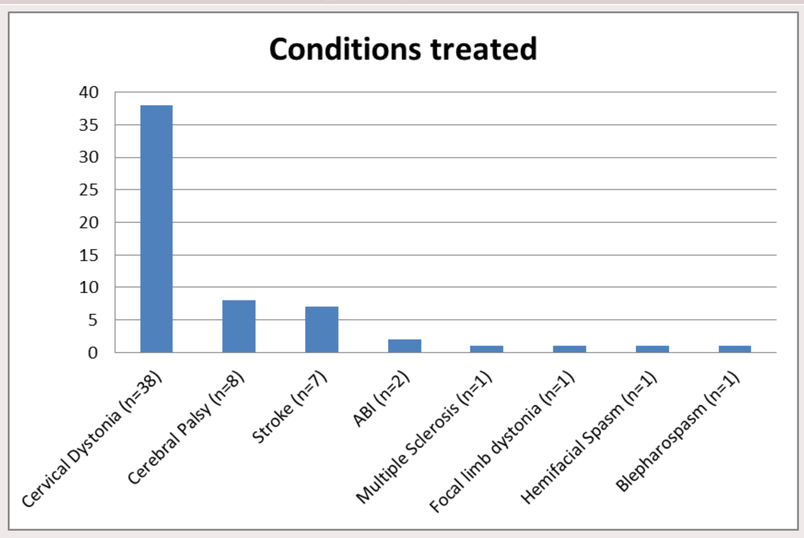
- New services require evaluation of clinical outcomes and patient satisfaction to ensure their quality and sustainability.

Methods

- A service evaluation was carried out between September and November 2016 when the clinics were newly established, with the primary aim of evaluating patient satisfaction in the PLBT clinics. The secondary aim was to evaluate whether the PLBT clinics were providing botulinum toxin injections with good clinical outcomes by improving patients' functional ability.
- Every patient (n=66) attending the clinics during this time was approached to participate. Evaluation data were gathered in three sections; a pre-injection Functional Rating Scale (FRS), a patient satisfaction questionnaire and a post-injection FRS returned by post 4 weeks after injection.
- The patient satisfaction questionnaire was developed by the Physiotherapist to include the eight dimensions of patient satisfaction described in the literature[1] and included aspects such as the environment of the clinic, waiting times and involvement in the decision making process.

Results

Patient demographics



Mean age of participants
59 years (range 28-88)
43 females (73%)
16 males (27%)

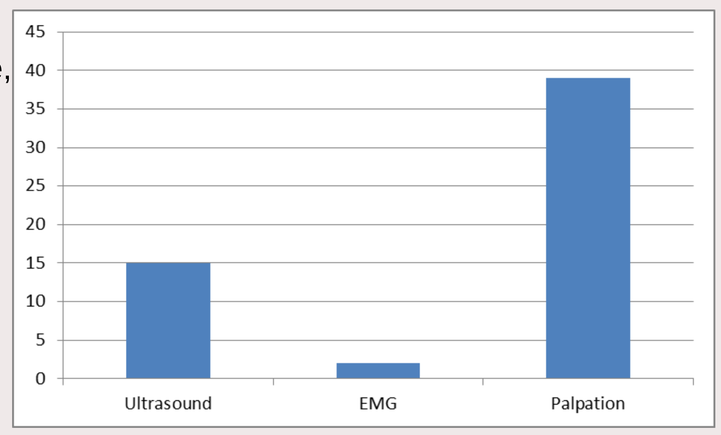
Botulinum toxin A used.

Xeomin	37	(66%)
Dysport	14	(25%)
Botox	5	(8%)

Guidance technique used

Most injections to the neck were administered using palpation alone, in line with usual clinical practice within the Trust, with two complex neck injections administered using EMG.

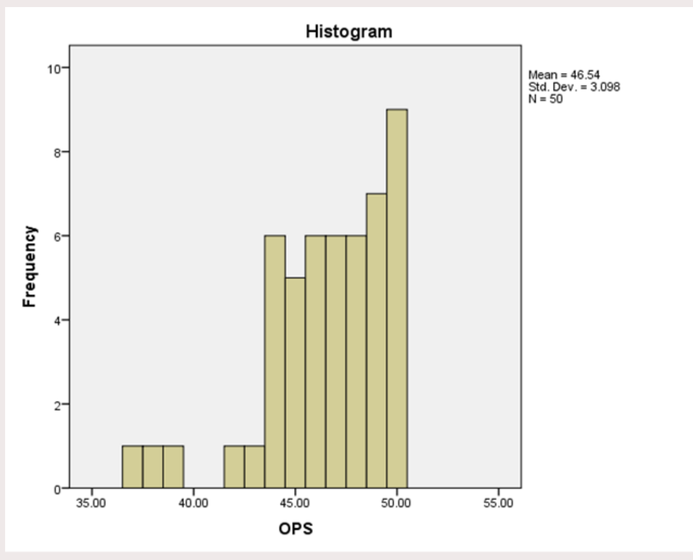
Most limb injections were administered under ultrasound guidance.



Patient Satisfaction

59/66 (90%) of patients responded to the patient satisfaction questionnaire. 56 were injected and therefore eligible to complete the follow up rating scales. 93% (51/56) patients returned the follow up rating scale and therefore had full sets of data for analysis.

On average patients demonstrated a high level of total Overall Patient Satisfaction (OPS) with 47/51 (94%) scoring 40 - 50/50.



Patient perceived functional change after injection

Due to the diversity of conditions treated there was no single standardised objective outcome measure which was relevant for the whole group to assess injection effectiveness. Therefore prior to injection patients were asked to select a functional task that they felt was limited by their condition (e.g. cutting nails) and rate this on a 10cm visual analogue scale (VAS) to give a Functional Rating Score (FRS) with 0 = no function, 10 = normal function. VAS is widely used in the literature[2,3] although has not been validated for function. They were then asked to repeat this rating 4 weeks post injection and return this via the post. This was used to assess the patients perceived functional change after injection and therefore injection effectiveness.

There was a statistically significant mean improvement of 3.33 in FRS after injection ($p<0.01$) with 71% (36/51) of patients reporting a clinically significant change (2 points or higher improvement in FRS).

Functional Rating Scale (FRS) change baseline to 4 weeks post -injection

Area of the body injected	FRS worse	FRS better 0-0.9	FRS better 1 to 1.9	FRS better 2 or more
Limb (n=16)	0	0	2 (4%)	14 (28%)
Neck (n=33)	4 (8%)	2 (4%)	7 (14%)	20 (39%)
Face (n=2)	0	0	0	2 (4%)
Total	**4 (8%)**	**2 (4%)**	**9 (18%)**	**36 (71%)**

Of the patients who had indicated a deterioration in function on the VAS, two reported 'satisfaction' with the injection effect on a post injection Likert scale and therefore may have misunderstood the VAS rating. One was referred back to their consultant after 2 cycles with poor effect.

Discussion and Conclusions

Patients reported a high level of satisfaction with the PLBT clinic across all areas covered in the questionnaire. There were no particular areas highlighted for concern. Patient satisfaction with the outcome of the injection appears to be generally consistent with the literature[4,5]. In some cases it was slightly worse, in others slightly better, with these differences likely to be due to sample sizes, measurement tools used or complexity of patient groups.

The PLBT service thus provides a service that meets the needs of its patients, who are satisfied with the service and receive BT injections with good clinical effect. We can see patients more frequently. The therapist has more time to discuss their clinical problems and liaise with the patient's local therapists.

The PLBT clinics improve the overall quality of the BT service at the Walton Centre by providing more availability for injections administered using a guidance technique. There is an opportunity to provide additional therapist advice and guide external therapists. Appointments are cheaper than if the service was provided by consultants. These clinics also increase the consultants' capacity to see new patients for diagnosis and complex therapy as more follow up appointments are completed by the Physiotherapist.

References

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