

Idiopathic Bell's Palsy

A Case Study of Lymph Drainage Therapy (LDT) Treatment

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A 45-year-old female with Bell's palsy was evaluated at a physical therapy outpatient clinic three and a half months after initial onset of facial paralysis symptoms. She experienced a mild infection for two weeks and then presented with the symptoms of right sided facial paralysis two weeks after her mild infection alleviated.

Past medical history revealed a current history of smoking otherwise noncontributory. She denied familial history of Bell's palsy. Treatment modalities are discussed for infection causes and idiopathic presentation of facial paralysis. Lymph drainage therapy (LDT) was conducted as treatment in this case study of Bell's palsy.

Treatment results were substantial in just 11 treatment sessions, each lasting approximately 40 to 45 minutes. Increased muscular tone was visibly noted. Functional improvements were noted with absence of Bell's phenomenon and less tear collection, and the patient noted improved speech.

Patient achieved a muscle grade of 3 out of 5 demonstrating movement of skin through full range against gravity. Muscles that improved included frontalis, nasalis, corrugator supercilii and orbicularis oris.

Occurrence of Bell's Palsy

Bell's palsy occurs in approximately 40,000 Americans every year and as much as 0.2 percent of the worldwide population.¹ The diagnosis of Bell's palsy is one of exclusion and is based on clinical findings.² Differential diagnosis should include trauma, local or systemic infections and pathology of the central nervous system.

Common infectious causes of sudden onset facial paralysis include but are not limited to such conditions as Lyme disease, Epstein-Barr, herpes simplex viruses and influenza viruses. Bell's palsy often follows a viral upper respiratory infection and can be due to demyelination of the facial nerve post infection.³ Complete paralysis of the nerve results in loss of motor, sensory and parasympathetic function ipsilateral to the lesion.

Motor paralysis is characterized by complete loss of muscle control of facial expression within the affected region. There is flattening of the nasolabial fold, sagging at the corner

of the mouth, and displacement of the lips toward the unaffected side. The palpebral fissure widens. On attempts at eye closure, Bell's phenomenon is seen, characterized by rotation of the affected eyeball in an upward position with inability to close the lower lid. The ipsilateral corneal blink reflex is absent.

Symptoms generally present quickly over a 24- to 48-hour time period with 60 percent of patients experiencing a viral prodrome, characterized by stuffy nose, sore throat and generalized achiness.⁴ Approximately half of suffers experience sensory loss of the face, neck or tongue, and most experience painful sensitivity to sound.² Drinking and eating may be affected secondary to paresis, and lacrimation may be decreased.³ Nerves can regenerate at approximately one inch per month (1 to 2 millimeters per day) and can continue a minimum of 18 months.⁵ The prognosis for Bell's palsy with or without treatment is good, with most patients having improvements within two weeks and about 80 percent completely recovering within three months.¹ Prognosis is dependent on age, familial history, severity of symptoms and concomitant disease processes and reoccurrences.

Recovery typically occurs within four weeks following presentation of symptoms with complete recovery by 6 to 12 months following paresis.³ In severe cases, oral steroids such as prednisone are often administered in doses of 40 to 60 mg/day on a tapered dose over 7 to 10 days to facilitate resolution of symptoms.⁶ This intervention is based on the belief that Bell's palsy results from inflammation and edema of the nerve secondary to a viral causation.³ Complications include incomplete recovery of facial nerve function (10 to 15 percent), faulty reinnervation and reoccurrence (7 percent).⁶ Contractures of facial muscles and facial spasms have also been known to occur. Surgery consisting of decompression of the facial nerve typically is considered only when facial paralysis is extensive and further treatment options have failed revealing complete paresis.²

Physical therapy may also be indicated.^{7,8} Physical therapy treatment approaches may include facial re-education exercises, surface EMG biofeedback, and direct current galvanic electrical stimulation.⁸ Using reeducation exercises alone typically results in a extensive duration of physical therapy. One particular study demonstrated improved outcomes after 14 physical therapy treatment sessions over a 13-month duration.⁹

History and Physical Eval

The patient was referred to outpatient physical therapy by her primary care physician with the diagnosis of Bell's palsy. Patient remarked that she experienced a mild infection that presented with "cold-like" symptoms four months prior. These "cold" symptoms lasted approximately for two weeks. After these two weeks, she started experiencing some facial droop. She reports the night prior to her facial paralysis, she went to bed with tingling sensations on her mouth and when she awoke the next morning, she had paralysis on the right side of her face.

At the time of her physical therapy evaluation, the patient had noticed a return of taste, better ability to breathe out of her right nostril and initial signs of decreased numbness. Her chief complaints at the time of evaluation were lack of tone and muscle function on the right side of her face, as well as problems with her speech. She also complained of episodes of right dry eye as well as watery eye secondary to lack of approximation of her right eyelids. Visual inspection of the patient revealed right-sided facial paralysis with facial droop. Patient presented with visual presentation of hypotonicity of facial muscles on the right side. Muscle testing revealed a 0/5 manual muscle test grade, complete paralysis; no visible or palpable contraction.¹⁰

The following muscles were assessed through facial expressions: levator labii superioris, orbicularis oris, corrugator supercilii, nasalis and procerus.¹⁰ Functionally, patient was unable to smile, frown, purse lips or close the right lower eyelid. She was also unable to "wrinkle nostrils" or raise her forehead or eyebrow on the right side.

Patient presented with decreased light touch sensation on 90 percent of the right side of her face. Edema was visually not detected, but was noted by palpation on the right aspect of the cervical region following the anatomical pathways of the sternocleidomastoid chain of lymph nodes and the spinal accessory chain of lymph nodes. Edema was also noted via palpation along the right transverse cervical chain of lymph nodes. Palpation also revealed "congestion" and edema in the region of the right buccinator and zygomatic arch. In the region of the right zygomatic process and arch, there was a presentation of +2 pitting edema with moderate pressure. Patient did not complain of pain.

Plan of Care

Patient was verbally educated on facial expression exercises as a home exercise program, and reciprocated demonstration and verbal understanding. Patient was agreeable to conducting home exercise program 2-3x/day during the course of her treatment. Home exercises included pursing lips, frowning, smiling, winking with right eye, and "snarling" with an angry face expression.

Patient was advised on a treatment option of direct galvanic current electrical stimulation to stimulate muscle contraction while performing her home exercise program. The patient was given a trial basis of the electrical stimulation (e-stim) treatment. The e-stim device was used for two trial sessions at home. Patient declined further use of the direct current e-stim after only one usage, due to the uncomfortable sensation it produced.

At the evaluation, LDT was suggested to the patient as another treatment modality. Patient agreed to receive a session of lymph drainage therapy at the time of the evaluation.

Lymph drainage therapy is a gentle manual therapy method of activating lymphatic function and circulation. Based on the traditional drainage methods, LDT advances by further incorporating precise techniques and manual "listening" skills to efficiently and effectively encourage and support lymphatic and interstitial fluid circulation. Her symptoms decreased dramatically after a 35-minute treatment session. She agreed to return to physical therapy to receive further LDT treatment for her condition.

Ten additional LDT treatment sessions were conducted each lasting 30 to 45 minutes. Lymph drainage therapy was conducted using the "Face Sequence: Level 1" outlined in Lymph Drainage Therapy I Study Guide; Lymphatic Pathways: Anatomical Integrity. Each location of the sequence received five to 10 strokes at an approximately 1-5 second active phase duration and a 1-5 second passive phase duration (61 locations x 7 strokes x 6 seconds/60 = 42 minutes).

LDT techniques involve specific directions and sequences of positions. The sequence begins proximally at the supraclavicular lymph vessels and continues distally with the cervical vessels and nodes and involves facial vessels. The final procedures of lymph drainage therapy returns from distal locations back to the proximal supraclavicular region.

Treatment Gets Results

Progress was immediately noted from the manual therapy treatment on her first visit. After a 35-minute treatment session following the sequence, there was visible demonstration lifting of the corner of the mouth and improved symmetry of the lips toward the affected side. The lower eyelid also improved.

At the conclusion of this patient's plan of care, the patient received 11 treatment sessions over an eight-week duration ranging in time lengths of 40 to 45 minutes. She was able to demonstrate visibly that she was able to grin and able to close her eyelids together without the Bell's phenomenon occurring. She had improved sensation with the right side of the face and was able to perform "raspberries" with her lips, which she was unable to do prior to Bell's palsy presentation.

Patient also presented with forehead movements, ability to raise eyebrow, and less numbness and tingling with the right cheek. Patient noted improvement to her speech and there was improved oral motor control noted with decreased episodes of biting her cheek and tongue. Palpation via attending therapist revealed absence of the +2 pitting edema in the zygomatic region, decreased fibrotic tissue and absence of edema of the cervical and clavicular lymph channels and nodes on the right. Patient revealed improved facial expression and muscle tone.

This patient demonstrated immediate results after one lymph drainage therapy treatment session. Since her initial treatment was conducted after the typical three-month recovery

time period, it is evident that LDT was the means to this patient's recovery. Indeed, this patient recovered with LDT faster than through other treatment methods presented, with less side effects from medicinal and surgical methods and less pain from galvanic electrical stimulation.

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