Polymyositis

1. Summary: how does it affect people, how its medical treatment affects people, and its expected course across the lifespan.

Polymyositis is one of three inflammatory myopathic (IM) diseases characterized by muscle weakness throughout the body. This disease typically appears around the age of 50 years old, with gradual progression. There is no cure for this disease, although treatment can be conducted to increase muscle strength and function. Treatments include physical therapy and medications. Polymyositis is often initially treated with corticosteroids, which can have a multitude of predictable and unpredictable side effects. These side effects that would specifically relate to swallowing function include increased risk of infection and upset stomach. Abruptly stopping the medication can cause nausea and vomiting.

2. Impact on swallowing function: relationship between the medical prognosis and any associated swallowing problems.

Polymyositis is often associated with dysphagia symptoms, although studies have shown that patients do not often seek the evaluation of a speech language pathologist. Since muscle weakness is the primary characteristic of the disease, swallowing function is often affected. Problems can occur in all stages of the swallow. In the oral preparatory phase, a patient may have insufficient mastication for bolus formation and insufficient pressure to stop spillage. In the oral phase, a patient may not be able to easily transfer the bolus posteriorly. In the pharyngeal phase, a patient may have incomplete closure of the velopharyngeal port and hyolaryngeal elevation. In the esophageal phase, a patient may have peristalsis issues as well as insufficient relaxation of the UES in some cases. These difficulties can lead to aspiration pneumonia, which can be life threatening if the patient has reduced respiratory functioning. It is likely for patients with polymyositis to present with some degree of respiratory dysfunction due to the fact that their muscles are weak and inefficient. They may also have difficulty coordinating their breathing pattern when swallowing, particularly during consecutive swallows. All of these symptoms are important to evaluate to ensure that the patient is getting adequate hydration and nutrition, as well as preventing aspiration pneumonia for patients whose respiratory function is compromised in some way.

3. Annotated bibliography:


This study focused on interstitial lung disease (ILD), a negative prognostic factor associated with increased morbidity and mortality in patients with polymyositis (PM) and dermatomyositis (DM). In the study, twenty-three patients with a diagnosis of definitive or probable PM/DM were included to estimate predictors and long-term outcomes of ILD. The study was planned to include one enrollment visit and follow-up visits after three, six, and twelve months, and then annually after that. At each visit, the patients were assessed with laboratory tests, chest radiography, high-resolution computed tomography (HRCT), and pulmonary function tests (PFTs). All patients were treated with high doses of glucocorticoids, usually oral prednisolone, but occasionally intravenous methylprednisolone pulse therapy, and another immunosuppressive agent based on the decision of a physician. Twenty-one patients ended up being used because two died after diagnosis. According to the physician’s global assessment in the twenty-one remaining patients, disease activity and functional status improved at the time of the follow-up evaluation compared to the initial presentation. Laboratory tests of serum creatine kinase and serum c-reactive protein levels returned to normal in all the patients. Relapses with temporary elevated serum creatine levels
were noted in three patients during the follow-up period. In the results of the study, ILD was chronic in most patients, but mild and nonprogressive during immunosuppressive treatment. PFT improved in some patients who were treated with a combination of high doses of glucocorticoids and other conventional immunosuppressive agents in the early stages of the disease and a few patients even normalized. The course of ILD could not be predicted at the time of diagnosis, but changes in total lung capacity occurred after 11-19 weeks of therapy. In most cases, the prognosis was good with PFTs stabilizing, improving, or normalizing. It is concluded that an optimal treatment for patients with ILD-associated PM/DM is unknown because this study was not intended to be a clinical trial. There were medicines that were most often used, but not always used. Changes in therapy were made during follow-up by the physician as well. Signs of ILD on HTRC may still remain. This study was informative because it was suggested that patients with PM/DM should be investigated using a PFT, chest radiography, and HRCT in order to identify patients with ILD early in the course of the disease. This disease could influence activities of daily living and health-related quality of life. We found out that if ILD is present, PFT should be repeated during follow-ups as an outcome measure of immunosuppressive treatment in order to estimate prognosis.


This research study was conducted to uncover the underlying causes of dysphagia in people with inflammatory myopathies (IMs). There was a total of 18 participants who underwent both an esophageal manometry test as well as a videofluoroscopic test to evaluate the function of different structures involved in the swallowing process. Only 2 out of the 18 subjects had problems with UES functioning. They showed greater difficulty in delayed swallow initiation, with 24% of swallows impaired at a level greater than "mild" (IBM 39%, DM not significant, and PM 19%). Vallevcular residue greater than "mild" was seen in 9% of swallows over all, specifically 17% for IBM patients, no significant DM patients, and 4.2% for PM patients). Decreased hyolaryngeal excursion greater than "mild" impairment was seen in 22% of swallows overall on mostly thin liquids. Patients with IBM showed 22% of swallows were impaired, DM patients were 21% impaired, while no PM patients showed impaired swallows greater than "mild" for hyolaryngeal excursion. Finally, penetration and aspiration were impaired for some patients. A total of 7 patients exhibited penetration, and only 4 exhibited aspiration. Overall, this study showed that dysphagia symptoms are prevalent in IM patients (more in IBM than DM and PM). In addition, the dysphagia symptoms more often result from suprahyoid and pharyngeal muscle weakness as opposed to UES insufficiency.


This article discussed the three major immune-mediated inflammatory myopathies, which include dermatomyositis (DM), polymyositis (PM), and inclusion body myositis (IBM). When classifying the myopathies, DM and PM can occur in isolation or as part of a systemic connective tissue disease. The article stated that PM is a less common form of the three, and more likely to occur as an overlap syndrome. Skeletal muscles are involved in the three forms, but in DM and PM, the muscle weakness usually develops subacutely and is diffuse and non-selective, but with proximal prominence. The article talked more about the clinical features of IBM, rather than in DM and PM, since it is the most common form of myopathy. When diagnosing an inflammatory myopathy, an elevated creatine kinase level supports this, but cannot pinpoint a specific form. Electromyography is helpful in figuring out the diagnosis, and may provide the severity and extent of it. There are myositis-specific antibodies that help for forms of myositis that are often more resistant to treatment and have poorer prognosis, but the diagnostic sensitivity is fairly low. A muscle biopsy from the vastus lateralis, deltoid or biceps brachii muscles is the definitive diagnostic procedure performed. The patterns of muscle fiber necrosis, inflammatory cell infiltrates, and other histological changes differ in the three forms. When the article discussed the different underlying pathogenetic
mechanisms in the three forms, this was confusing. Numerous cells and muscle fibers were discussed in this section and were hard to follow. Treatment was also discussed in this article, and it stated that there is insufficient data to actually provide evidence. Throughout this section, different dosages of medications were stated to give at initial treatment, as well as a timeline on when to provide them. This discussion was too complex for clinical relevance. In cases of inflammatory myopathies that are resistant, alternative treatment was provided. Apart from the resistant cases, immunoglobulin therapy was shown to be effective in uncontrolled trials of PM, but the availability is limited and expensive, so it is usually suggested in severe cases. There are different treatments emerging, but the agents being provided have to further be evaluated. In our opinion, IBM was the form of myositis that was most often discussed, which makes sense because it is the most common form. Also, we felt that making a specific diagnosis between the three was difficult to obtain.


This article evaluated the prevalence of dysphagia in people with inflammatory myopathies. A total of 18 subjects who were diagnosed with one of three inflammatory myopathies (inclusion body myositis, dermatomyositis, and polymyositis) were involved in the study. Their dysphagia symptoms and severity were evaluated using a multitude of scales and tests. These include the Sydney Swallow Questionnaire (SSQ), The M.D. Anderson Dysphagia Inventory (MDADI), Functional Oral Intake Scale (FOIS), and a videofluoroscopy protocol adapted from the Logemann. Results showed that 17/18 of the participants reported having some degree of dysphagia at some point. However, none of these 17 patients ever saw a speech pathologist for these symptoms. The most prevalent dysphagic symptom was difficulty swallowing solids, followed by swallowing liquids and then managing saliva and secretions.

One main drawback of the study was the limited number of participants. It is not appropriate to generalize the prevalence of dysphagia symptoms for the population of people with inflammatory myopathy (IM) with such a limited number of participants. In addition, the authors speculate that results of dysphagia prevalence may be heightened due to an increase in interest for people who actually presented with the symptoms over those who did not. The big take home message from this study is that this population of people are not being seen by speech language pathologists when they should be.


This is a short research study that explains the use of the immunosuppressant drug *tacrolimus* for patients with inflammatory myopathies (IMs). This drug has shown to be very successful in treating IMs, and will likely continue to be used in combination with the typical administration of corticosteroids. This is important to be aware of, as immunosuppressant drugs reduce immune system functioning, putting patients with dysphagia at higher risk for generating aspiration pneumonia and being less able to fight it off once it is acquired.