

An Overview of Guillain Barré Syndrome

Acknowledgments

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INTRODUCTION

The disorder commonly called Guillain-Barré (ghee-yan bar-ray) syndrome is a rare illness that affects the peripheral nerves of the body. It can cause weakness and paralysis, as well as abnormal sensations. The syndrome occurs sporadically, that is, it cannot be predicted, and can occur at any age and to both sexes. It can vary greatly in severity from the mildest case, that may not even be brought to the doctors' attention, to a devastating illness with almost complete paralysis that brings a patient close to death. Because it is so rare, most of the public has never heard of the illness, or if they did, know little about it. Yet, for those effected, the illness can be severely disabling.

The following Overview is directed to patients with Guillain-Barré syndrome, their families and other interested lay persons. Its aim is to briefly acquaint you with the illness' history, its cause and manner of presentation, describe some of the effects of this disorder on the patient's life and those about him or her.

The term syndrome, rather than disease, is used to describe the illness observed by Guillain and others. This term reflects the recognition of the illness by the collection of symptoms (what the patient tells the physician about changes in his body) that typify the disorder.

HISTORICAL BACKGROUND

In 1859, a French physician, Jean B.O. Landry, described in detail a disorder of the nerves that paralysed the legs, arms, neck and breathing muscles of the chest. Several reports of a similar disorder followed from other countries. The demonstration by Quinke in 1891 of spinal fluid removed by passing a needle into the lower back paved the way for three Parisian physicians,

Georges Guillain, Jean Alexander Barré and Andre Strohl to show, in 1916, the characteristic abnormality of increased fluid protein, but normal cell count. Since then, several investigators have collected additional information about this disorder. It can affect nerves not only to the limbs and breathing muscles, but also those to the throat, heart, urinary bladder and eyes. Doctors have several names for the syndrome, including acute (rapid onset of), idiopathic (of unknown cause), polyneuritis (irritation or inflammation of many nerves), acute idiopathic polyradiculoneuritis, Landry's ascending paralysis, etc.

CAUSES OF GUILLAIN-BARRÉ SYNDROME

The cause of Guillain-Barré syndrome is not known. A variety of events seem to trigger the illness. Many cases occur a few days to a few weeks after a viral infection. These infections include the common cold, sore throat, and stomach and intestinal viruses, with vomiting and diarrhoea. Some cases have been associated with specific viral infections, such as infectious mononucleosis and viral hepatitis; others have occurred with a rare disease of red blood cells, porphyria. Some cases have occurred after such seemingly unrelated events such as surgery, insect stings and various injections. In the USA many cases occurred in the winter of 1976-77 in persons who received the swine flu' vaccine. Although many illnesses or other events seem to trigger Guillain-Barré syndrome, why the disorder occurs in certain patients is still not known.

Research to date indicates that, regardless of the triggering event, the nerves of the Guillain-Barré patient are attacked by the body's defence system against disease-antibodies and white blood cells.

As a result of this attack, the nerve insulation (myelin) and sometimes even the covered conducting part of the nerve (axon) is damaged and signals are delayed or otherwise changed. Abnormal sensations and weakness follow.

Because Guillain-Barré syndrome often follows a viral illness, it is sometimes mistakenly thought to be contagious. However, there is no evidence that it can be caught even if a person was around the patient when they had the preceding viral infection. In fact, often the virus is no longer in the patient when they develop the syndrome.

EARLY FINDINGS WITH GUILLAIN-BARRÉ SYNDROME

The effects of Guillain-Barré syndrome can be quite varied. As mentioned above, this disorder affects the nerves that sense our surroundings (hot, cold, smooth, rough, other textures etc.) as well as those that signal our muscles to contract and let us walk, write, breathe, swallow, talk, smile, and so forth. In Guillain-Barré syndrome, the damaged nerves can not perform these functions properly.

If nerves that sense surroundings become damaged, patients may initially develop abnormal or decreased feelings, such as numbness, tingling, asleep feeling, crawling under the skin, electricity, vibrations and so forth. These abnormal sensations are often felt in the feet, hands, and even gums or face,

tend to be equal on both sides of the body, and may go up the body (ascend) from feet to hands to face, or descend.

Just as often, and usually of most distress to the patient, is muscle weakness and aches. These are caused by damage to the nerves that go to muscles. Commonly, the thigh and hip muscles are affected so that walking stairs or getting up from a chair becomes difficult.

Indeed this is a problem that often motivates a patient to seek medical attention. If the arms are affected, lifting heavy objects becomes difficult. Aches or cramps often accompany muscle weakness. On occasion, the muscles that control breathing lose their signals, so a patient feels short of breath; or muscles for swallowing become weak so that patients cough on their own secretions. Should facial muscles lose their signals, the expression may become lop-sided, the smile lost, or food may get caught in a cheek pouch. Such problems may lead a person to seek medical attention. Rarely, difficulty in urinating or inability to hold one's urine, and therefore wetting, may be a patient's initial problem.

The syndrome may also involve the automatic nerves to the body and alter blood pressure, heart rate, body temperature and vision. Even brain control of kidneys can be affected, resulting in poor or excessive urine output and abnormal blood chemistries, such as low salt concentration.

In contrast to a stroke that typically affects only one side of the body, Guillain-Barré syndrome usually causes sensations and weakness of both sides.

DIAGNOSIS

As might be gathered from the above descriptions, the initial and subsequent abnormalities in Guillain-Barré syndrome can be quite varied. Furthermore, the symptoms can occur quite rapidly, over hours to days, or slowly, over weeks. Thus, the diagnosis of Guillain-Barré syndrome can be difficult to make, especially in its early phase. Sometimes a person may have only developed abnormal sensations, such as tingling in the hands, feet or face or easy fatigue, when they first seek a physician's advice. In this early phase, objective evidence of a problem may be difficult to find, and the possibility of an emotional disturbance, rather than the presence of a true organic illness may be suspected.

In many patients, the typically described rapid onset of equal weakness or paralysis of both legs, and then arms, occurs, as well as numbness, or a sense of pins and needles, and the diagnosis is more rapidly made. As a general rule, if the onset of symptoms is rapid and equal on both sides of the body, the syndrome is easier to diagnose.

A variety of findings on physical examination, as well as laboratory studies help the physician establish the diagnosis. Muscle strength testing shows weakness; tests of sensation reveal deficits. Reflexes, such as knee jerks, are

usually lost. Conduction of electric signals by nerves become prolonged or slow and muscle responses to nerve stimulation becomes abnormal. Physicians may use instruments with needles to detect these abnormalities. Also, the fluid bathing the spinal cord in the back is usually abnormal, so that a spinal tap is helpful. (In spite of experiences in prior years, headaches are rare after this uncomfortable, but rarely painful, procedure.)

A diagnosis of Guillain-Barré syndrome is usually based upon evaluating many of the findings described above. No one observation alone is usually sufficient to make the diagnosis.

EARLY HOSPITAL STAY AND CARE

When a diagnosis of Guillain-Barré syndrome is made, most patients are hospitalised if they are not already in such a facility. In some patients the course is often not predictable and may be downhill. Since important bodily functions, such as breathing, blood pressure, heart rate, swallowing, air clearance and bladder control can be affected, careful observation in the hospital, often in the intensive care unit, is utilised. There, rapid treatment can be given if problems arise.

Several doctors may be involved in early care. These may include the family GP, the general physician, or a neurologist.

Sometimes a specialist in rehabilitation medicine is involved. In the early stages of a severe case nursing care is very important. On-going treatment by a physiotherapist is usually employed.

During the early part of the illness, especially for the few patients who require intensive care, events can be quite frightening. Most patients with Guillain-Barré syndrome were formerly healthy, so that finding themselves suddenly paralysed, helpless, with intravenous lines, a bladder catheter, and a heart beat monitor that continuously beeps can be emotionally upsetting. If the arms are too weak, even brushing teeth, feeding oneself or scratching an itch can become very frustrating. The feeling of utter helplessness, and hopelessness, thoughts of possible death, and the threat of permanent disability, dependence and income loss can be emotionally overwhelming. It is helpful for both patient and family to keep in mind that most Guillain-Barré syndrome patients get better, most eventually walk, and many can ultimately resume a normal life.

EMOTIONAL REACTIONS

Patients may go through a variety of emotional reactions to the weakness, unpredictability and other aspects of GBS, including; denial, shock and disbelief (this can't be happening to me, I must have a more common, treatable disease, etc.); bargaining (if I get better fast or off the respirator or really have a more benign disease, in return I'll..... be satisfied, do the following, etc.); frustration (I'm fed up with being in the hospital and want to be back home, I'm tired of needing to wait for others to help me, be dependent

on others); depression (I feel terrible, will I never get better, deserve this punishment, am worn out, can't put up with this any longer) and acceptance (I'll do the best I can, things could be worse, thank goodness I'm alive, am finally walking with only a cane, without a cane, etc.)

Guillain-Barré syndrome patients, especially those in an intensive care unit or on a respirator (breathing machine) may benefit emotionally and otherwise from the following suggestions for hospital staff and family.

Early in the hospital stay the patient may benefit from an explanation of the disease, and the relatively good chance for recovery. If family, friends and medical personnel also understand the illness, they can present a more optimistic attitude to the patient.

The patient on a respirator may feel less frustrated if a method to communicate with others is provided.

It is helpful to have a central figure upon whom the patient and family can call to get explanations of the patient's status and care plans. Optimally, this should be an accessible person with good bedside rapport. In the acute hospital it is often the neurologist or general physician although in the rehabilitation centre later the rehabilitation specialist may be the person.

Explanations of their activities by nurses, respiratory therapists, physical therapists, etc., will help alleviate anxiety when unfamiliar procedures are performed.

Frequent visiting by family and friends will show caring and provide moral support.

Especially in windowless intensive care units, a clock, electric calendar and radio will help the patient keep track of day and night hours, maintain awareness of the outside world, improve orientation and minimise confusion.

Should abnormal sensations develop, the patient may be relieved to know that these are common and can often be controlled.

Allowing the patient to ventilate emotional reactions such as anger, frustration and fear will help them better deal with these.

Involvement by family and friends at the bedside with such activities as grooming, reading, cards, discussing family events and so forth will reduce the patient's sense of isolation and helplessness that a prolonged hospital stay can foster.

EARLY TREATMENT

As of this writing, specific treatments that might predictably halt or reverse the disorder have not been definitely established although plasmapheresis now appears to have a definite role in some cases. Two avenues of therapy have

been tried, corticosteroids (kor-ti-co-steer-oids) and plasmapheresis (plaz-ma-fer-eace-is).

High doses of corticosteroids, hormones normally made by adrenal gland (above the kidney) have been used with varying results. Their value is still questionable. A large study conducted in England indicated that corticosteroids are not beneficial.

Plasmapheresis, a process in which some of the patient's blood is removed, the liquid part separated, and the blood cells returned to the body, has been used for severe cases. The co-operative study undertaken in the US seems to indicate that patients treated early in their illness generally will recover more rapidly than those untreated but other factors including the age of the patient and accessibility of plasmapheresis need to be considered.

Most other treatments are directed at preventing or treating the complications of Guillain-Barré syndrome. For example, the paralysed patient, at bed rest, is prone to several problems that can be prevented.

Frequent turning, a foam mattress cover or special bed that enables changes of body position, helps to prevent bedsores (skin breakdown over bony prominences). Blood flow tends to be slow in the leg and pelvic veins of paralysed patients and the use of blood thinners helps to prevent formation of clots in veins and their travel to the lungs. Leg swelling, related to paralysis and fluid accumulation can be relieved by leg elevation, special (TED) stockings and other techniques.

Should abnormalities of the body's internal organs develop, appropriate treatments are available. Constipation can be relieved with bowel softeners or other drugs. Abnormal blood pressure or heart beat can also be treated by several medications. Retention of urine may require bladder drainage with a catheter, called a Foley.

If muscles used for breathing become too weak, a tube is passed into the airway (trachea), and connected to a breathing machine or mechanical ventilator (eg. Bennet MA-1). Should these steps be required, various methods are used to clear the lungs of secretions and help prevent pneumonia. Because patients on a respirator cannot speak, they may need alternate methods to communicate with hospital personnel and family. If the hands are strong enough, a pencil and paper on a clipboard can be used. The extremely weak patient can be instructed to use a simple code system such as eye blinks or finger taps to signal "yes" or "no" responses. Even the weakest patient can usually still hear quite well, even if completely paralysed. Thus they may still benefit from words of encouragement and explanation of activities around them. Mechanical support of breathing is continued until sufficient strength of required muscles has returned. Various methods are used to determine that strength is adequate to allow unassisted breathing and weaning from a respirator.

During the early part of the acute hospital stay, physical therapy is usually started even if the weakness is negligible. In fact, this is a most important part of the patient's care. Such treatment may include movement by a therapist of limbs to prevent abnormal bending of joints (contractures) as well as bedsores. Special attention is usually given to the knee, ankle, hip, shoulder, elbow and wrist joints. A footboard or other device may be used to prevent foot drop.

Pain of joints and muscles can be treated with pain medications (analgesics), such as aspirin, or stronger prescription agents, if needed. Muscle spasms can be treated with relaxants, such as diazepam (Valium®).

During the syndrome's earliest stages, and even through its entire course, the patient may experience difficulty and frustration from abnormal sensations. The frustration arises because the sensations are truly felt by the patient and can be quite severe or annoying, but have no physical correlation outside the body (eg. the feeling of pain, but without injury) and may be difficult to control.

Furthermore, they can be quite difficult to demonstrate, measure, or otherwise document. One example is the sense of vibration while lying perfectly still in bed, a phenomenon experienced by the author. Another example is the sense of excruciating pain, so severe that analgesic medications don't give relief and potentially addicting narcotics may be considered. The treating physician may be hard pressed to justify use of such drugs for a problem he can't prove exists. Other sensation abnormalities may be quite subtle and difficult for even the patient to describe. The author, for example, would cough, choke and aspirate the ice cold water used to take medications. Room temperature water was easily tolerated. This problem probably reflected, in part, decreased sensation by cold receptors in the throat.

Most of the various sensation problems usually resolve with time. Particularly bothersome sensations may sometimes respond to treatment with such drugs as phenytoin (Dilantin®) or carbamazepine (Tegretol®). As these agents can have significant side effects, the decision to use them should take into consideration the potential benefits versus risks. Some-times, pain can be relieved by a transcutaneous electric nerve stimulator (TENS) unit, a portable, battery powered device that supplies electric current to the skin and underlying nerves. It is important to realise that the complications and therefore treatments of Guillain-Barré syndrome are not predictable. For the most part, treatments are highly individualised.

INTERMEDIATE COURSE AND REHABILITATION

The downhill course of Guillain-Barré syndrome can vary from a few days to a few weeks. Usually, a low stable level of impairment (paralysis, weakness etc.) is then maintained for a variable length of time - days to weeks, and rarely, longer. However, once improvement begins, relapse or recurrence of the syndrome is rare. Generally, the shortest the time for recovery to begin after maximum disability is reached, the less likely that some long-term disability will remain.

When the patient has recovered from medical complications, such as breathing difficulty and infections, and some muscle strength has returned, treatment in an acute care hospital is usually no longer required. Physical therapy is continued and if the patient is sufficiently weak they are transferred to a rehabilitation hospital.

In the rehabilitation centre, emphasis is placed on regaining maximal use of the weak muscles. Simultaneously, any remaining medical complications are treated. These can include control of high blood pressure, antibiotics for infections, treatment of blood clots, and so forth.

Strength usually returns in a descending pattern, so that arm and hand strength usually returns before leg strength. Often, right-handed persons note more rapid return of strength to their left side and vice versa. As arm strength returns, the patient is again able to do things that used to be taken for granted, such as care for mouth hygiene, cut meat and so forth. As ability to perform these routine tasks returns, the successes can be emotionally quite fulfilling, leading to outright crying with tears of joy. Rehabilitation in many centres is accomplished by the coordinated efforts of several groups of professionals. Their overall goal is to assist the patient to return to as near normal a life style as possible. The specialist in rehabilitation medicine usually coordinates and oversees the total rehabilitation program.

An occupational therapist instructs the patient on exercises to strengthen the upper limbs - shoulders, arms, hands and fingers. They help to retrain or re-learn many activities usually taken for granted such as holding a pencil, using a utensil, and so forth. Muscle testing may be performed, and exercises designed to strengthen the weaker muscles, such as the small muscles of the hands.

The physical therapist emphasises exercises to maintain tone and strengthen lower limbs, and ultimately teaches the patient to walk as independently as possible. A variety of methods are used to accomplish these goals. Methods may include exercises in a pool where water gives buoyancy; exercises on a mat with weights, stationary bicycle pedalling and so forth. As leg strength improves various assistive devices are used to provide balance and support during walking. These may include parallel bars, walker, crutches and canes. Eventually, if possible, independent walking without an assistive device is accomplished. During this whole learning process emphasis is placed on proper body mechanics, avoidance of substitution of stronger muscles for weaker ones, and prevention of muscle strain.

In addition to occupational and physical therapists, other persons may participate in rehabilitation. These may include nurses, as well as social workers and psychologists.

The latter can play an important role to assist the patient and family in dealing with the new and sometimes overwhelming problems of paralysis, dependency, loss of income, and the associated multitude of emotional problems. Emotional reactions to severe illness can include frustration,

depression, self-pity, denial, anger and so forth. Since prognosis for the Guillain-Barré patient is relatively optimistic, in spite of the potential gravity of the illness, a practical approach is to take one day at a time during the rehabilitation process.

There are a few differences between the Guillain-Barré and other patients in the rehabilitation hospital that warrant comment. Most of the patients in this kind of hospital have had a stroke, amputation or brain or spinal injury and will regain some but limited return of function. In contrast, the overall chance for return to a near normal life style is rather good for the Guillain-Barré patient. Furthermore, although most rehabilitation patients are strongly encouraged to exercise to maximum tolerance, this is usually not advised for the Guillain-Barré patient. Excessive exercise may lead to aches, cramps, pain and exhaustion of muscles that have inadequate nerve supply. Therefore, some moderation or pacing of exercises is often advised.

As with most aspects of medical care, rehabilitation for Guillain-Barré syndrome is individualised for the patient's particular problem.

PROGNOSIS

The overall outlook for the Guillain-Barré patient is relatively optimistic. Although the exact percentages vary from study to study, the following values give an estimate for long-term prognosis. Up to 90% of patients reach nearly complete recovery. Some of these patients may have persisting, but mild, abnormalities that will not interfere with long term function. These may include abnormal sensations, such as tingling, achy muscles or weakness of some muscles that make walking or other activities awkward or difficult. Perhaps 5 to 15% of Guillain-Barré patients will have severe, long-term disability that will prevent return to their prior life style or occupation.

Rarely, a patient will be wheelchair bound for a prolonged time. It is important to emphasise that, as in many aspects of medicine, the prognosis or expectation for degree of recovery for any patient cannot be predicted. Strength returns at various rates. Although improvements may be noted from day to day, quite often they can be appreciated on a week to week basis. As strength and endurance increase, improvements may occur at a slower rate and only be noted on a month to month basis. Recovery may continue for anywhere from six months to two or more years.

LONG RANGE PLANS

As the patient progresses with their rehabilitation program, there may be a role to plan for multiple long-range problems. These problems include learning to drive and use convenient parking, re-employment, learning to pace activities, sexual activities, limitations of the wheelchair-bound patient and so forth. A social worker may assist in handling many of these problems.

The majority of patients who were in a rehabilitation centre may be placed on an outpatient therapy program when sufficient strength has returned. At

home, one level living may be temporarily helpful, on a floor with a bathroom and a bed, until the patient is able to climb stairs.

As sufficient strength returns, driver retraining may be appropriate, especially if the patient has been hospitalised and not driving for a long time. Driver retraining, and adaptation of an automobile for hand controls, is available through some rehabilitation centres.

The frustration of physical exhaustion or shortness of breath associated with prolonged walking may be reduced in the recovering patient by parking near a building entrance, in a handicapped parking space. A special parking placard or licence plate is available in some states.

As the patient approaches the end of in-hospital rehabilitation, it is usually appropriate to plan for re-employment. This is hopefully a cooperative effort between patient, social worker, former employer and, if available, a state bureau of vocational rehabilitation. A potential barrier to return to work, as well as resumption of a normal overall life style, is the onset, following a certain amount of activity, of muscle aches, physical exhaustion, and abnormal sensations, such as tingling and pain.

This problem may be circumvented by returning to work part-time initially, and if possible, timing activity, such as walking, to be intermittent with periods of rest on a couch or cot when exhaustion or muscle aches occur or are anticipated. Many patients learn by trial and error how much activity they can tolerate. For example, as the author progressed through the day's activities he would experience tingling of the right fourth and fifth fingers shortly before exhaustion set in, thus signalling the time for reduced activity and rest.

After discharge from a formal hospital-based in- or outpatient rehabilitation program there may still be a role or desire for continued exercise. Usually, some of the physical and occupational therapy exercises done as an in-patient can be performed at home. Also activities of daily living, such as bathing, dressing, walking and stair climbing may suffice as a practical outpatient exercise program. Should muscle or joint cramps or aches develop after activity, over-the-counter mild pain medications such as aspirin or acetaminophen (Tylenol®) may provide relief. Since pain relief does not relieve the muscle, tendon or joint strains, rest periods or a temporary reduction of activity may be helpful.

Some caution is warranted with respect to non-hospital based exercise programs, jogging and sports. Although these activities are popular, their benefit and safety for the still-recovering Guillain-Barré patient is questionable. Patients who engage in these activities are capable of exerting beyond the physical limitations of their tendons and muscles. Muscle tears as well as stress fracture of bones can result and may require prolonged casting. Obviously these injuries should be avoided by common sense pacing of activities until the patient is recovered.

Upon return to home, the recovering Guillain-Barré patient can usually resume their prior sexual activity. Positions that minimise muscle exertion, such as lying on the back, may prevent exhaustion until pelvic and other muscle strength has improved.

For the rare patient who is wheelchair bound, architectural barriers may be overcome by using ramps to enter the home and other buildings. One floor living may be required unless an elevator is available. A visiting nurse and physical therapist may be utilised to treat the patient at home. The significantly handicapped patient is referred to their local rehabilitation centre.

The above review is only meant to provide guidelines. Each case of Guillain-Barré syndrome is different. Each case requires individual evaluation and treatment. This is usually accomplished under the direction of participating doctors, including family physician, internist, physiatrist and neurologist.

SUMMARY

Guillain-Barré syndrome, also called acute idiopathic polyneuritis (rapid onset of inflammation of many nerves of unknown cause) is a disorder that consists of weakness and even paralysis of muscles of the legs, arms, and other parts of the body, as well as abnormal sensations. It frequently follows a viral infection. The illness can present in several ways, at times making the diagnosis difficult to establish in its early stages. Early care is often given in an intensive care unit so that potential complications can be treated quickly should they occur.

No specific treatment is yet available to predictably stop the illness' downhill course or reverse it. Corticosteroids have been tried with varying results. Plasmapheresis, or removal of the liquid portion of blood from the body, holds promise as a method to hasten recovery. In the early stages of the illness treatments are directed at preventing complications of paralysis. If breathing muscles become paralysed, a comprehensive rehabilitation program in an appropriate centre is often utilised.

As muscle strength returns, efforts are directed towards returning the patient to their former life style. Once recovered, one would not expect a subsequent attack at any later date.

Patient care involves coordinated efforts of a neurologist, general physician, GP, physiotherapist, occupational therapist, social worker, nurse and psychologist or psychiatrist. Emotional support from family and friends, and information about this rare disorder may help the patient learn to deal with this frustrating, disabling and potentially catastrophic illness. A particularly frustrating consequence of this disorder is long-term recurrences of fatigue and/or exhaustion as well as abnormal sensations or muscle aches. These problems can occur following the exertion of normal walking or working and can be alleviated or prevented by reduction of activity and rest.

Pertinent facts about Guillain-Barré syndrome include the following (the figures are approximate):

- Frequency is about 1 to 2 cases in 100,000 population each year (0.001 - 0.002%); the disorder is rare.
- About 50% of cases follow a viral illness.
- Diagnosis can be difficult in the syndrome's early stages.
- The disorder is not contagious.
- Half the patients initially develop abnormal sensations; 25% present initially with muscle weakness (often difficulty walking); 25% present initially with both abnormal sensations and weakness.
- Rehabilitation is the major form of treatment.
- Recovery may occur over 6 months to 2 years or longer. It can occur sooner.
- In the early stages of the illness, prognosis or long-term outcome is not predictable.
- Up to 90% of patients eventually have complete or almost complete recovery.
- Five to 15% of patients will have significant long-term disability or handicap.
- Perhaps 35 to 45% of patients have long lasting, but mild, abnormalities.
- The frequency of death is about 1 - 5% usually due to respiratory or cardiovascular complications.

MILLER FISHER SYNDROME

In 1956, M. Fisher reported three patients with what is now referred to as Fisher's or Miller Fisher Syndrome. It also has the outlandishly long but medically descriptive name, acute disseminated encephalomyeloradiculopathy. It is considered a variation of Guillain-Barré syndrome and is rather rare.

Most cases have occurred in adult males shortly after an upper respiratory infection. The prominent features are weakness of the eye movements, often with double or blurred vision, a clumsy walk, and loss of deep tendon reflexes, such as knee jerks.

Other common accompanying complaints include facial weakness or sagging, abnormal sensations (numbness, tingling, etc.,) generalised weakness and slurred speech. Spinal fluid protein is elevated.

As with usual forms of Guillain-Barré syndrome, the cause of Miller Fisher syndrome is not known and treatment with corticosteroids has sometimes been tried.

CHRONIC INFLAMMATORY DEMYELINATING POLYRADICULONEUROPATHY

CIDP, or chronic inflammatory demyelinating poly-radiculoneuropathy, shares many features with Guillain-Barré syndrome, and in fact, is sometimes referred to as chronic or relapsing (recurring) Guillain-Barré syndrome. However it is very much less common. Other medically descriptive names by which CIDP is known include chronic idiopathic polyneuritis and chronic relapsing (dysimmune) polyneuropathy. It is usually clear from soon after the onset that a patient has CIDP because of its chronic, ie gradually progressive course evolving over months or years rather than days or weeks as in Guillain-Barré syndrome. Some patients with CIDP do have periods of worsening and then improvement and individual relapses are sometimes rather confusingly like Guillain-Barré syndrome.