



ILEP



TECHNICAL BULLETIN

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EARLY DETECTION AND TREATMENT OF REVERSAL REACTION UNDER FIELD CONDITIONS

1 INTRODUCTION

Leprosy reactions are the main cause of acute nerve damage and disability in leprosy. Reactions are caused by changes in the immune response of the patient to the mycobacteria. There are two types of reaction, reversal reaction or type 1 reaction and erythema nodosum leprosum (ENL) or type 2 reaction. (ILEP Technical Bulletin 9 describes the management of ENL reaction).

Reversal reactions often occur in the first 6 months of multidrug therapy (MDT) and may occur in both paucibacillary (PB) and multibacillary leprosy (MB), but more commonly in MB. Sometimes patients are found to have reversal reactions at the time of diagnosis and it may be the symptoms of the reaction which makes the patient aware of the disease. A reversal reaction may occur after completion of MDT, particularly when short duration regimens are used.

2 EARLY DETECTION

Early detection is very important to decrease the extent of nerve damage and the risk of further disability. The outcome of treatment is much better if reversal reaction is detected early and treated promptly. It is therefore important that detection of reversal reaction is done as soon as possible. The patient may present with one or more of the following features:

- Skin lesions become red and swollen.
- Painful, tender and swollen peripheral nerves.
- Signs of nerve damage - loss of sensation and muscle weakness.
- Fever and malaise.
- Hands and feet may be swollen.
- New skin lesions may appear.

Note: Silent neuritis can occur, with gradual or sudden loss of nerve function, but with none of the other signs of acute reversal reaction.

There are four essential components to early detection:

- All health workers should be aware of the signs and symptoms.
- Sensory and motor nerve function must be assessed and recorded in all patients at time of diagnosis. This is essential to detect any future changes.
- Sensory (ST) and motor nerve function (VMT) should be assessed monthly, and certainly not less than 3 monthly during MDT - the method used will depend on local circumstances.
- All patients must be made aware of the possibility of sudden nerve function loss and acute eye problems, and the need to report these promptly.

3 TREATMENT OF REACTION

A mild reaction is when there is no nerve involvement. This can be treated with rest and anti-inflammatory drugs (aspirin) at home. The nerve function of the patient needs to be kept under close surveillance because there is a considerable risk that function impairment may develop.

A severe reaction is when there is nerve involvement and to prevent disabilities, treatment must be started immediately. A red, raised, swollen patch overlying or around an eye is significant. In addition to rest and analgesics, the patient will need to be treated with cortico-steroids such as prednisolone, given as tablets, by mouth. The daily dose of prednisolone should not exceed 1 mg per kg body weight. WHO recommends that the course should last at least 3 months and may

be up to 6 months. The daily dose should be reduced gradually and never stopped suddenly.

Suggested dose of prednisolone for adult:s:

- 40 mg once a day for first 4 weeks, then
- 30 mg once a day for weeks 4-8
- 20 mg once a day for weeks 8-12
- 15 mg once a day for weeks 12-16
- 10 mg once a day for weeks 17-18 and
- 5 mg once a day for weeks 19-20.

3.1 Availability of steroids

It is important that steroids are available when patients are treated with MDT and that staff are trained to give steroids when appropriate. These may be distributed to patients in blister packs where available.

3.2 Contra-Indications for the use of steroids

The use of steroids may be contra-indicated in patients with the following problems: tuberculosis, peptic ulcer, serious infections and illnesses, diabetes, glaucoma and hypertension. In these circumstances, the patient should be referred to hospital.

Patients on MDT should continue the course of MDT without interruption along with anti-reaction treatment.

3.3 Patient information

The patient should receive sufficient explanation to help him/her understand the following:

- That a reversal reaction is not a new leprosy infection.
- That reaction can be treated with tablets.
- The treatment should not be stopped suddenly.
- Awareness of possible side-effects.
- Exercise is required to keep limbs mobile.
- Skin lesions will fade rapidly.

4 CARE OF INFLAMED NERVES

- While there are signs of neuritis, the nerve should be rested to relieve any pain and to assist recovery.
- To rest a nerve in the arm, make a sling.
- To rest a nerve in the leg, the patient should not walk.
- To keep the nerve warm by wrapping the tender area to relieve pain.

- Daily gentle massage and exercise of joints should be encouraged to avoid joint stiffness.

5 THE TREATMENT OF REVERSAL REACTION UNDER FIELD CONDITIONS

Many patients are unable or unwilling to be admitted to hospital for the treatment of reactions. The reasons for this are varied, but may be because patients for economic, or family reasons are not prepared to be hospitalised for the length of time required to complete treatment. In some areas, hospital in-patient and out-patient facilities may not have the resources to cope with the numbers requiring treatment and may be an inconvenient distance away from the patient's home.

Most patients with reversal reaction can be managed in the field provided that staff are supervised and properly trained in the use of steroids. Patients must also be instructed not to stop the treatment suddenly and to report any changes in sensation and muscle strength or any adverse effects of steroid treatment.

If treated at home, the patient should be seen every 2 weeks by the health worker and checked every month by the leprosy supervisor at their regular leprosy clinic. There must be careful monitoring:

- To ensure that the treatment is being taken.
- To assess response to treatment.
- To check for any adverse side-effects of the steroid treatment. The important problems include peptic ulcer, diabetes, menstrual irregularities, changes in mood and other emotional problems.

Referral to hospital is recommended:

- If complications do occur.
- If the patient does not respond.
- If there is deterioration in the patient's condition.

Reactions in HIV positive patients -

These may be prolonged and severe with significant skin lesions and neuritis. They also need treatment with steroids for at least 20 weeks.

References

WHO Enhanced Global Strategy Operational Guidelines 2011-2015 which can also be found on the ILEP website at <http://www.ilep.org.uk/en/library-resources/who-publications/>

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