MINISTRY OF PUBLIC HEALTH & SANITATION

Division of Leprosy, Tuberculosis and Lung Disease (DLTLD)

THE COMMON SIDE EFFECTS, LIKELY CAUSING AGENTS, AND MANAGEMENT STRATEGIES

Side affect	Suspected agent(s)	Suggested management strategy	Comments
Seizures	Cs H FQ	• Suspend suspected agent • Initiate anticonvulsant therapy (e.g. carbamazepine) • Restart suspected agent or reinitiate suspected agent at lower dose**, if essential** to the regimen	• Continue anti depressants to until treatment is completed
Peripheral neuropathy	CS H FQ KM AMK CM E Ethio	• Increase pyridoxine to maximum daily dose (**200 mg per day**). • **Change** parenteral to CM if patient has documented susceptibility to CM. • Initiate tricyclic antidepressants e.g. amitriptyline. NSAIDS • Lower dose of suspected agent, if this can be done without compromising regimen.	• Patients with co-morbid disease (e.g., diabetes, HIV, alcoholism) may be more likely to develop peripheral neuropathy. • Neuropathy is irreversible; some patients may experience improvement when offending agents are suspended.
Hearing loss	S KM AMK CM	• Change parenteral to CM if patient has documented susceptibility to CM • Injectible should never be stopped before conversion of patients	• Audiometry at the initiation of MDR TB therapy. • Hearing loss is **generally not** reversible.
Psychotic symptoms	Cs, H, FQ, Ethio	• Usually caused by Cs. Withhold suspected agents till symptoms are brought under control. • Initiate anti-psychotic drugs e.g. Haloperidol • Start Cycloserine at 250mg per day, observe for 5 days. If stable increase to 250mg BD for 5 days. Increase the dose again to 750mg per day. If patient can't tolerate, reduce to where the pat can tolerate. **NB. Cycloserine is given in divided doses.** • In case of severe psychosis, replace with PAS	• Continue anti-psychotic treatment throughout MDR TB therapy. • Prior history of psychiatric disease is **not a contraindication Second line drugs** • Psychotic symptoms **are generally reversible** upon completion of MDR TB treatment or cessation of the offending agent
Depression	Socio-economic circum-stances, chronic disease, CS, FQ H Ethio	• Improve socioeconomic conditions. • Group or individual counseling. • Initiate antidepressant drugs. • Lower dose of suspected agent, if this can be done without compromising the regimen.	• Socioeconomic conditions &chronic illness are contributing factors to depression. • Depressive symptoms may fluctuate during therapy • History of prior depression is not a contraindication to the use of the Second line drugs
Hypo-thyroids	PAS Pto/Ethio especially when given in combination	• Initiate thyroxine therapy. • Thyroxine should be given for till one month after completion of treatment • Follow TSH and adjust thyroxine periodically	• **Completely reversible** upon discontinuation of PAS or Ethio.
Nausea and vomiting	PAS Pto H E Z CFZ	• Rehydrate • Initiate anti-emetic therapy. • Take medication after meals Monitor electrolytes especially potassium and replace	• Nausea and vomiting are common in early weeks of therapy and usually **abate** with time supportive therapy. • Reversible upon discontinuation of suspected agent.
Gastritis	PAS Ethio H E Z CFZ	• Antacids (e.g., calcium carbonate, H2-blockers, proton-pump inhibitors). • Dosing of antacids should be taken two hours before or after anti-TB medications.	• Severe gastritis, as manifested by hematemesis, melena, or hematechezia, is rare. • Reversible upon discontinuation of suspected agent(s).
Hepatitis	Z R H Ethio PAS E FQ	• Stop all therapy pending resolution of hepatitis. (*If the LFT results shows a >5 times more than the reference range*) • Rule out other potential causes of hepatitis. • Re-introduce remaining drugs, one at a time with the **LEAST** suspected hepatotoxic agents first, while monitoring liver function (*see SOPs – Hepatic regimen)*	
Renal failure	S KM AMK CM	• CM if an aminoglycoside had been the prior parenteral in regimen. • Use intermittent dosing while monitoring the creatinine clearance • Adjust all TB medications according to the creatinine clearance	• History of diabetes or renal disease is not a contraindication to the use of the agents listed here, although patients with these co-morbidities may be at increased risk for developing renal failure.
Electrolyte disturbance (Hypomagnesaemia & Hypokalemia	CM KM AMK S	• Check potassium. • If potassium is low, also check magnesium (and calcium if hypocalcemia is suspected). • Replace electrolytes as needed as per guideline	• **If severe hypokalemia is present, consider hospitalization**. *See SOPS*
Optic neuritis	E	• Stop E. • Refer patient to an ophthalmologist	• Usually reverses with cessation of E.
Arthralgias	Z FQ	• NSAIDS. • Initiate exercise regimen. • Symptoms of arthralgia generally diminish over time, even without intervention	• Uric acid levels may be elevated in patients on pyrazinamide. Allopurinol **appears not to** remediate uric acid levels.

NB: For further information, refer to the guidelines and standard operating procedures.