Summary

Tuberculosis is a disease that has been known since antiquity, and it remains one of the leading causes of morbidity and mortality worldwide.

Its management has become more complex because of increased resistance to commonly used antituberculosis drugs.

Tuberculosis (TB) is a major infectious disease killing nearly two million people, mostly in developing countries, every year.

The increasing incidence of resistance of Mycobacterium tuberculosis strains to the most-effective (first-line) anti-TB drugs is a major factor contributing to the current TB epidemic.

Drug-resistant strains have evolved mainly due to incomplete or improper treatment of TB patients.

Resistance of M. tuberculosis to anti-TB drugs is caused by chromosomal mutations in genes encoding drug targets. Multidrug resistant (resistant at least to rifampin and isoniazid) strains of M. tuberculosis (MDR-TB) evolve due to sequential accumulation of mutations in target genes.

Emergence and spreading of MDR-TB strains is hampering efforts for the control and management of TB.

The MDR-TB is also threatening World Health Organization’s target of tuberculosis elimination by 2050.

Proper management of MDR-TB relies on early recognition of such patients.

Several diagnostic methods, both phenotypic and molecular, have been developed recently for rapid identification of MDR-TB strains from suspected patients and some are also suitable for resource-poor countries.

Close contacts of MDR-TB patients are defined as people living in the same household or spending many hours a day together with the patient in the same indoor living space.

The available data indicate that close contacts of MDR-TB patients who develop active TB most commonly have drug-resistant disease.

Once identified, successful treatment of MDR-TB requires therapy with several effective drugs some of which are highly toxic, less efficacious and expensive.

Proper drug susceptibility test, proper choice of drugs at the beginning of treatment and modification of treatment after knowing drug susceptibility testing results are important for the prevention of MDR-TB.

Ensuring patient adherence to treatment is important in the medical institutions where drug susceptibility test is not properly done, in particular, for INH-resistant RMP-susceptible cases, and guidance to these institutions by the public health centers should be intensified.

Minimum treatment duration of 18e24 months is also long, making it difficult for health care providers to ensure adherence to treatment.

Successful treatment has been achieved by supervised therapy with appropriate drugs at institutions equipped with facilities for culture, drug susceptibility testing of MDR-TB strains to second-line drugs and regular monitoring of patients for adverse drug reactions and bacteriological and clinical improvement.

Conclusions

From the present study, it was concluded that:

- Resistance to anti- tuberculous drugs is a major health threat in our country.
- The highest figures of resistance were to Isoniazid and Rifampicin which is probably attributed to the abuse of Rifampicin.
- The lowest figures of resistance were to Ethambutol.
- Resistance to drugs is very high among previously treated group.
- The most common type of resistance was acquired resistance because of lack of adherence to treatment or inappropriate treatment.
- MDR-TB is an increasing problem with higher figures of resistance in retreated patients.
- The more extensive the radiological lesion, the more incidence of resistance
- The most common complications of anti. TB drugs was GIT manifestations and the least complications was electrolytes disturbance.

Recommendations

- Regular drug resistance survey is important to monitor the cases.
- The best way to prevent MDR is: early detection and prompt treatment of TB.
- Culture and sensitivity is recommended for new smear positive cases not converted after 2 month of treatment and also for the contact of MDR.TB cases.
- In the light of increasing incidence of resistance of tuberculosis. It is recommended that drug susceptibility testing should be done for all patients if possible.
- Drug susceptibility testing is very important not only for appropriate diagnosis but also for the control of the disease and the identification of resistant strains.
- The application of the directly observed therapy with short course chemotherapy (DOTs) should be very strict to eliminate the problem of non adherence to therapy.
- Combination of 4 or more drug is recommended especially during initial phase of therapy for all patients with special emphasis on retreatment patient.
- To limit the resistance to streptomycin and rifampicin they should not be prescribed for diseases other than tuberculosis.
- Restricted availability of rifampicin and streptomycin in private pharmacies.
- There is an urgent need to develop new anti-tuberculous drugs to shorten the duration of treatment and making development of resistance less likely to emerge.

- Health education about TB, and hazards of tobacco smoking and drug addiction.
- In TB patients with associated diseases these associated diseases should be well controlled as diabetes.
- Adherence of patients to treatment even at home is more important than admission at hospital this might be as resistance is more liable to occur at hospital.
- Regular follow up of treatment to detect early complications of treatment.