Irrational use of antibiotics and No Bacterial Growth: A review

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Pharmacovigilance Report

Irrational use of antibiotics leads to development of resistance to antibiotics. As a part of establishing antibiotic policy by pharmacovigilance cell at tertiary care Centre, data regarding culture sensitivity for antibiotics was analysed and found that Patients who presented to hospital with various infections and clinical signs and symptoms when sent for culture sensitivity had no bacterial growth as a result. Prior use of antibiotics before doing culture sensitivity leads to no bacterial growth. Use of antibiotics after correct diagnosis by identifying the drugs which are sensitive to the organism will decrease occurrence of resistance to the drugs. If investigations cannot be afforded by all the patients, an antibiotic policy can be framed for the hospital and adherence to antibiotics leads to decrease in irrationality of antibiotics.

Result of no bacterial growth leads to misdiagnosis.

Using antibiotics to subside the disease based on signs and symptoms leads to
1. Increased resistance to drugs.
2. Increase in adverse drug reaction.
3. Increased usage of fixed dose combination.
4. Inappropriate usage of antibiotic leads to increased recurrence rate of infections.

Further sub cultures are to be needed to detect organisms from no bacterial growth. The above conclusions are supported by data obtained from tertiary care hospital (5)

Where urine culture sensitivity reports were analysed for a period of 6 months. and found that out of 116 patients who have given samples, 101 pts had a report of no bacterial growth which doesn’t give any clue of the organism. (2)

15 patients have shown culture positive report.
6 pts reported klebsiella species & 9 Patients reported E.coli species.
Klebsiella species have shown sensitivity to Amikacin, Gentamycin and Cefperazone
E. coli species have shown sensitivity to Amikacin & Netilmycin.
Bar diagram depicting 87% (101 out of 116) of patients resulting in No Bacterial Growths, 8% (9 out of 116) resulting in Ecoli & 5% (6 out of 116) resulting in Klebsiella species. Thus showing increased incidence of No bacterial growths which doesn’t give correct diagnosis of the organism and further mislead the clinician to use antibiotics which are irrational.

CONCLUSION

Irrational use of antibiotics leads to No Bacterial Growths which further lead to Increased usage of antibiotics with incorrect diagnosis. Hence use of antibiotics After lab reports with correct diagnosis will decrease adverse drug reactions and resistance to drugs and prevent no bacterial growths in culture sensitivity reports. Thus yielding proper results.

REFERENCES

[6] culture negative bacterial Growth (2968)