

Human Facing the Dangerous Day for Multidrug Resistant Organisms or Antibiotic Resistant At Present and Future



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Abstract

Multi-drug resistance organism are very clever and gradually resistant the most antibiotic. Now a days maximum antibiotic such as penicillin, cephalosporins, aminoglycosides, tetracyclines, macrolides etc. group resisted by microorganism. Esch. coli resistant the antibiotic such as amoxicillin, cotrimoxazole, cephalexin, cepharadine, ceftriaxone, ceftazidime, ciprofloxacin, nalidixic acid and Coliform bacteria resistant the antibiotic such as azithroycin, ceftriaxone, cefepime, doxycycline, gentamycin, nitrofurantoin and Acinetobacter species resistant the antibiotic such as amoxicillin, amoxicillin/clav, cephadine, cefuroxime, ceftriaxone, cefixime, ceftazidime, aztreonam, ciprofloxacin, levofloxacin, amikacin, netilmicin, imipenem, meropenem, mecillinam, nitrofurantoin, cotrimoxazole. Many infectious diseases could not relief by single antibiotic and many people have died due to antibiotic resistance and need the double or triple types antibiotic drug for relief the diseases. Antibiotic resistance are very dangerous for surgical patients. If the patients affected by microorganism during operation or after operation of the patients then the life of the patients may be critical even death. At this time the doctor cannot permission the patients for operation or the doctor are afraid for permission of the patients for operation. If the new antibiotic do not discovery or invention then the human life become dangerous even death. After 20-40 years later 90-95% antibiotic will be resist by microorganism all around the world.

Keywords: Antibiotic resistant; Multidrug resistant organism; Surgical patients; New antibiotic

Introduction

Antibiotic are chemical substance or drug which used to treat and prevention of bacterial infection [1,2]. Antibiotic resistance is the ability of microorganism to resistant the effect of antibiotic [1,2]. Multidrug resistance organism are microorganism which are resistant two or more antimicrobial agent or antibiotic such as different antibiotic are resisted by Esch. coli, Coliform bacteria etc. [3]. The main cause of antibiotic resistance is the misuse of antibiotic and some bacteria are naturally resistant to certain antibiotic as a result many infectious diseases could not relief and many people die [3-7]. Antibiotic resistance leads to prolonged hospital stays, increase disease complication and antibiotic resistance is rising risk to dangerously high level in all country of the world even death [4-8]. During operation or post operation, surgical patients stays very risk for antibiotic resistance [2,4,8]. Many infectious diseases could not relief by single antibiotic and need double or triple antibiotic for relief of the diseases [2,9,10].

Method

For the purpose of research work specimens are divided into 6 group such as A, B, C, D, E, F. This 6 divided group sample was sent to differents diagnostic centre and hospital for culture test (antibiotic resistance test). A group had 2 specimens (A1, A2). A1, A2 urine sample (due to UIT symptom show) was sent to modern diagnostic centre Ltd (Dhaka, Bangladesh), B group had 2 specimen (B1, B2) [11]. B1, B2 urine sample (due to UIT symptom show) was sent to meghna laboratory (Chittagong, Bangladesh), C group had 2 specimen (C1, C2). C1, C2 sputum sample (due to RTI symptom show) was sent to chevron diagnostic centre Ltd (Chittagong, Bangladesh), D group had 2 specimen (D1, D2). D1, D2 blood sample (due to several surgical wound infection) was sent to sigma laboratory Ltd (Chittagong, Bangladesh), E group had 2 specimen (E1, E2). E1, E2 blood sample (due to high fever, stomach pain) was sent to CSCR diagnostic centre Ltd (chittagong, Bangladesh), F group had 2 specimen (F1, F2). F1 urine sample (due to high fever) was

sent to bangabondu sheikh mujib medical university (Dhaka, Bangladesh), F2 urine sample (due to high fever and lower abdominal pain) was sent to uttara crescent hospital (Dhaka, Bangladesh) and report was collected and recorded.

Result

Huge antibiotic are resisted by microorganism. As a result, tomorrow day will be dangerous for human life and many people easily die due to antibiotic resistant. After 20-40 years later 90-

95% antibiotic will be resisted by microorganism at all part in the world. Surgical patients will be stays highly dangerous condition (Table 1).

Table 1: Different microorganism and their resistant antibiotic drug.

Specimen no.	Age and sex (male or female)	Organism	Resistance drug	Test and specimen location
1(sample-A1)	20, female	Esch. coli	Amoxicillin, cotrimoxazole, cephalixin, cephradine, ceftriaxone, ceftazidime, ciprofloxacin, nalidixic acid.	Bangladesh
2(sample-A2)	30, male	Esch. coli	Amoxicillin, cephalixin, cotrimoxazole, ciprofloxacin, ampicillin, vancomycin, ceftriaxone	Bangladesh
3(sample-B1)	13, male	Coliform bacteria	Azithromycin, ceftriaxone, cefepime, doxycycline, gentamycin, nitrofurantoin.	Bangladesh
4(sample-B2)	20, male	Coliform bacteria	Vancomycin, chloramphenicol, azithromycin, ceftioxane, doxycycline, gentamycin, nitrofurantoin	Bangladesh
5(sample-C1)	25, female	Staphylococcus aureus	Ampicillin, cloxacillin, vancomycin, tetracyclin, chloramphenicol, methicillin	Bangladesh
6(sample-C2)	30, male	Staphylococcus aureus	Methicillin, ampicillin, erythromycin, cloxacillin, tetracyclin, vancomycin	Bangladesh
7(sample-D1)	35, male	Streptococcus pyogen	Clindomycin, tetracyclin, erythromycin, chloramphenicol, clarithromycin, cephalixin	Bangladesh
8(sample-D2)	20, female	Streptococcus pyogen	Tetramycin, clindamycin, erythromycin, clarithromycin, vancomycin, cephalixin, chloramphenicol	Bangladesh
9(sample-E1)	29, male	Salmonella typhi	Ampicillin, amoxicillin, cephalixin, cephradine, ceftriaxone, cotimoxazole, chloramphenicol, ciprofloxacin, sulphamethoxazole, nalidixic acid,	Bangladesh
10(sample-E2)	32, male	Salmonella typhi	Ampicillin, amoxicillin, cephalixin, cephradine, cotimoxazole, chloramphenicol, sulphamethoxazole, nalidixic acid, oxacillin, clindamycin	Bangladesh
11(sample-E2)	8 month, male	Esch. coli	Amoxicillin, nitrofurantoin, gentamycin, cephradine, ciprofloxacin, nalidixic acid, ceftriaxone, cefotaxime, cefuroxime, ceftazidime, netilmicin, mecillinum, amikacin.	Bangladesh
12(sample-F2)	75, male	Acinetobacter species	amoxicillin, amoxicillin/clav, cephadine, cefuroxime, ceftriaxone, cefixime, ceftazidime, aztreonam, ciprofloxacin, levofloxacin, amikacin, netilmicin, imipenem, meropenem, mecillinam, nitrofurantoin, cotrimoxazole.	Bangladesh

Discussion

Multidrug resistance organisms are bacteria which have the ability to resist the certain antibiotic (two or more antibiotic) and these antibiotic could not work against bacteria [12-15]. Antibiotic are important drug which help to fight against bacteria and save our life [10,11]. Nowadays, multidrug resistant organism are very super clever and gradually resist the most antibiotic and maximum penicillin, cephalosporin, tetracycline, aminoglycosides, macrolides group drug resisted

by the microorganism such as Esch. Coli resistant the antibiotic such as Amoxicillin, cotrimoxazole, cephalixin, cephradine, ceftriaxone, ceftazidime, ciprofloxacin, nalidixic acid. And coliform bacteria resistant the antibiotic such as Azithromycin, ceftriaxone, cefepime, doxycycline, gentamycin, nitrofurantoin. And acinetobacter species resist the antibiotic such as amoxicillin, amoxicillin/clav, cephadine, cefuroxime, ceftriaxone, cefixime, ceftazidime, aztreonam, ciprofloxacin, levofloxacin, amikacin, netilmicin, imipenem, meropenem, mecillinam, nitrofurantoin

and staphylococcus aureus resistant the antibiotic such as Ampicillin, cloxacillin, vancomycin, tetracyclin, chloramphenicol, methicillin and streptococcus pyogenes resistant the antibiotic such as Tetramycin, clindamycin, erythromycin, clarithromycin, vancomycin, cephalixin, chloramphenicol and salmonella typhi resistant the antibiotic such as Ampicillin, amoxicillin, cephalixin, cephalexin, ceftriaxone, cotrimoxazole, chloramphenicol, ciprofloxacin, sulphamethoxazole, nalidixic acid [2,12,14,15]. Improper or misuse of antibiotic is the main cause of antibiotic resistance and many infectious diseases cannot prevent by single antibiotic drug and required the double or triple antibiotic drug therapy for prevention of the diseases [6,13]. Many wound infectious diseases could not easily prevent and the patients required the long time stays in the hospital forget the relief of the diseases and increase the cost of the patients for treatment [3-5]. The another cause of antibiotic resistant are mutation of DNA molecule of bacteria and the transformation of DNA molecule from one bacteria to another bacteria and some bacteria have the natural ability to resistant the antibiotic [4,5]. Antibiotic resistant is rising day by day to dangerously high level at all country of the world [3,10]. After 20-40 years later 90-95% antibiotic resistant by microorganism at all part of the world [7,10]. Antibiotic are used to prevent the infections and also use as prophylactic of any surgery and reduces the surgical site infections [9,10]. But antibiotic resistant leads to increase the infection at high level for the surgical patients [2,3]. After operation or during operation of the patients, if the patients affect by microorganism then the life of the patients is very critical even death for antibiotic resistant [2,3]. At this time, the surgeon cannot permission the patients for major surgery due to antibiotic resistant even small cut, small surgery are highly chance to get the infection [2-5]. If the new broad spectrum antibiotic do not discovery or invention, then the human life will be very critical or dangerous even death [6,9,11].

Conclusion

Antibiotic resistant is increasing day by day and multidrug resistant organisms are gradually strong and resistant most antibiotics [15]. Nowadays double or triple antibiotic drug required for the prevention of infection or microorganism [2,8]. Surgical patients stays very critical highly risk level for antibiotic

resistant [2,10]. So if the new broad spectrum antibiotic do not discovery or invention then the human life will be dangerous and many people will die easily due to infection [6,9,11,16].

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