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AIDS AND IT'S IMPLICATIONS FOR THE ANAESTHESIOLOGIST

Dr. Sarita Janweja , Assistant Professor, Department of Anaesthesiology & Critical Care Dr. S. N. Medical College Jodhpur .

According to UNAIDS/WHO estimates, 11 men, women and children around the world were infected per minute during 1998 (nearly six million). More than 95% of all HIV infected people now live in the developing world, which has likewise experienced 95% of all deaths to date from AIDS. In India, the first HIV positive case was reported in 1986. The magnitude of disease has been found to be varied in various parts of the country. Maharashtra accounts for close to 50% of reported HIV and AIDS cases in India. Tamil Nadu, Andhra Pradesh Karnataka and Manipur are the other hard hit states.

Medical professionals can acquire HIV infection from a patient, fomite, contaminated environment and patient specimens either by direct infected blood/body fluids; accidental cuts with contaminated sharps and indirect contact with contaminated equipment and any other inanimate infected objects. An anaesthesiologist may be involved in management of such a case if a patient infected with HIV lands up in operation theatre for surgical procedure. There can be three situations when such a patient comes to OT

1. A known case for surgical condition.
2. An undiagnosed case who is taken for surgery.
3. Immediate contact of such patient who land up for surgery.

Anaesthesia in HIV positive patient

The risk of acquiring HIV following percutaneous exposure (needle prick with inoculation) from a patient positive for HIV is extremely low- 0.25 to 0.3%. This is because the concentration of HIV in peripheral blood is very low (10⁴ infectious virions/ml), whereas the risk of acquiring HBV following similar exposure ranges from 9-30% and that of HCV is 3-10%. Most exposures do not result in infection. The risk of infection varies with type exposure and factors such as-

1. The amount of blood involved in the exposure.
2. The amount of virus in patient's blood at the time of exposure.
3. Whether PEP (Post exposure prophylaxis) was taken timely.

All the high risk group persons (persons with permissive sexual behaviour particularly homosexual/heterosexual, drug addicts and professional blood donors) should be suspected when they have malaise, fatigue without obvious reason and loss of weight of more than 5Kg in two months. Persistent fever and diarrhoea of more than 4 weeks duration, persistent cough or swelling in the neck, arm pits and groin should also be suspected. Out of all gloom, there is one silver streak that the virus is easily destroyed by boiling, autoclaving, sodium hypochlorite, solution with 1% available chlorine, 3% hydrogen peroxide, 95% ethyl alcohol and 3% lysol. Each OT has to develop a protocol and awareness among health care group and theatre staff so as to observe the preventive measures. High degree

of suspicion and alertness is to be inculcated in the junior anaesthetists' level with universal precautionary approach.

Most common practice is to presume that all specimens and patients are infected and potentially infectious until proved otherwise. This is so because the correct HIV status of an individual can be known only by laboratory testing, to do which is not feasible and not cost effective.

Preventive Measures

Although, medical professionals are at low risk of acquiring HIV infection during management of the infected patient but the statistical risk of acquisition of HIV, along with absence of a vaccine or effective curative treatment makes them apprehensive. There are well-documented procedures and protocol for preventive measures while managing a case of HIV positive case in the operation theatre.

In managing a known case of HIV positive case in the OT, following care and precautions should be taken-

1. Availability of protective attire gloves, which should be sterile. It should not be peeled, cracked or torn. Hands should be washed before and after use of gloves.
2. In emergency, towels or gowns soaked in sodium hypochlorite can be used to prevent contact with blood or body secretions.
3. Gowns, masks, eye goggles to be used when blood or body fluids spurt to the eye is anticipated.
4. Needles, syringes and invasive procedures to be handled with utmost care
5. Use disposable instruments where ever possible.
6. Decontamination of instruments which are reusable before processing.
7. All used instruments should be discarded in puncture proof containers sufficiently filled with hypochlorite solution.

In operation rooms, following care should be taken routinely -

1. In addition to usual sterile dress worn during surgical procedure, protective eyewear and protective footwear should be worn.
2. All soiled laundry items and disposable items should be treated as infective. After the procedure the operating room should be wiped with 1:10 solution of bleach which should be left for 10 minutes.
3. OT should be notified in advance to prepare for the transfer of specimen. Transfer of blood, serum and other specimens have potential threat of spread of HIV positive infection and should be treated as infective. The outside of container should be washed with hypochlorite solution. The container should be placed in a second container. All instruments should be put in hypochlorite solution, then washed with soap, wearing gloves.
4. Autoclaving of every instrument is a must.
5. Sharp instruments can be treated with absolute alcohol or 2% glutaraldehyde.
6. Bronchoscope, gastroscope and optical equipment should be sterilized with ethylene oxide or 2% glutaraldehyde for 45 minutes.
7. Linen, laundry items, soiled linens should be placed in an impervious laundry bag which is not water soluble and labeled as bio-hazardous waste. Gloves and mask should be worn while handling such linens.
8. Bleach or Lysol should be added while laundering after linen is washed with detergent in hot

water.

9. Infective waste needles, syringes, instruments, containers, laboratory waste body fluids, infected human vomits should be collected and stored separately.
10. Hospital waste should be burnt in incinerators.
11. Blood and body fluids can be flooded in toilet or drain connected to a sanitary sewer

Post Exposure Prophylaxis (PEP)

1. Immediately following an exposure to blood:

- Needlesticks and cuts should be washed with soap and water.
- Splashes to the nose, mouth or skin should be flushed with water.
- Eyes should be irrigated with clean water; saline, or sterile irrigants.
- Do not put the pricked finger in mouth reflexly.

There is no scientific evidence that the use of antiseptics for wound care or squeezing the wound will reduce the risk of transmission of HIV. The use of caustic agent such as bleach is not recommended.

2. Following any blood exposure one should:

- Report the exposure to the appropriate authority and condition must be treated as an emergency. Prompt reporting is essential because in some cases, postexposure treatment may be recommended and it should be started as soon as possible- preferably within 2 hours. Although perhaps not as effective, late PEP (after 72 hours) may still be useful.

Post exposure treatment is not recommended in all types of occupational exposure, as it does not necessarily lead to infection. The possibility of serious toxicity of drugs used to prevent infection should also be taken into account. 3-5 ml. of blood should be collected for ELISA/HIV immediately after exposure, 2nd at 6 weeks, 3rd at 12 weeks, and last at 6 months after the exposure. In low titre exposure to HIV positive patients e.g. asymptomatic and with high CD4 count, prophylactic drug therapy is not indicated. Zidovudine, 200mg. 8hourly should be considered for treatment of all high titre exposure e.g. advanced AIDS primary HIV infection, high viral load or low CD4 count. Lamivudine 150 mg. 12 hourly should be added in selected cases to increase effectiveness particularly in ZDV resistant virus

Summary

Although guidelines regarding universal precautions and other bio safety practices are available, since long strict implementation is not in practice in health care settings in India, with increase in prevalence of HIV infection, there is a definite need that the HCW's take bio safety practices seriously. For effective compliance, the hospital managers should ensure adequate supply of personal protective equipment, availability of material for hand washing, disinfectants, and set up an effective waste disposal programme for disposal of biomedical wastes.

References

1. Shapiro, Grant and Weinger. AIDS and the Central Nervous System. Anesthesiology v80;No.1; 1994
2. Specialist's training and Reference Module. National AIDS Control Organization, Ministry of health and family welfare, Government of India. Editor- Rewari B.B.

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3. Col. (DR) Manohar Lal. AIDS and Anaesthesiologist. Are we Prepared? ISA News Bulletin Delhi Branch. vol.3
September 1994.