Pattern of Antibiotics Prescription in a Referral Academic Hospital, Northeast of Iran

Sir,

Irrational prescription of drugs could result in health and economic consequences which is evitable. In many countries, antibiotics are about 30%-50% of prescribed drugs.

Increased resistant species and decreased efficiency of antibiotics cause enormous costs in health systems.

A valid index called Anatomical Therapeutic Chemical-Defined Daily Dose (ATC/DDD) is defined by the World Health Organization (WHO) to study the drugs statistically.

This study was conducted in 2009 in internal, infectious disease, and surgical wards and intensive care unit (ICU) of 5th Azar Hospital affiliated to Golestan University of Medical Sciences. We studied 318 admitted patients who were randomly selected. Data gathered from patients’ medical records. DDD/100 indicates the DDD of antibiotics per 100 occupied beds and is calculated as following:

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100 \times \text{dosage of antibiotic based on DDD index} \times \text{Occupation index} \times \text{the number of hospital’s bed} \times \text{study duration (days)}
\]

Among all recruited patients, 69% (220 cases) had received antibiotics. Total bed days occupation was 1791. DDD/100 bed days (also known as DBD) was 122.05 in which 76.84% were prescribed in intravenous forms.

Highest antibiotics prescription was seen in infectious diseases ward (259.62). Among 23 different prescribed antibiotics, the most (90.2%) were as following: Ceftriaxon (30%), clindamycin (21%), cephazolin (12%), metronidazole (9%), gentamycin (8.3%), azithromycin (8%), and ciprofloxacin (4%).

In 20% of patients (55% of prescription in surgery ward), the antibiotics were used in case of prophylaxis for bacterial infection in clean or clean-contaminated surgery procedures; in 87% of these cases, antibiotics were used more than 24 h. In 26 cases, no certain reason was found for antibiotic orders.

Despite the efforts of different organizations and researchers to reduce the indiscriminate use of antibiotics in hospitals, unfortunately, this trend is still continuing.

In a study in five Children’s Hospital, China (2002-2006); all antibiotics’ usage was reported 68.2, 58.4, 65.6, 65.8, and 49.9 DDD/100 bed days which the third generation of cephalosporin’s was the most prevalent. In 2002, the usage was twice more than others and this trend was decreasing during years.

In a similar study by Ebrahimzadeh et al., in city of Sari, North of Iran the use of antibiotics increased from 95.4 DBDs in 2000 to 124 DBDs in 2005. Highest increase was seen in vancomycin (28.4 folds) and clindamycin (4.8 fold). Oncology ward, ICU, and general surgery consumed the most antibacterial agents in year 2000 and it changed to ICU ward, gynecology, oncology, and orthopedic in 2005. Cefazolin, ampicillin, ceftriaxone, and gentamicin were the most highly used antibiotics in 2000 and in year 2005, Cefazolin, ceftriaxone, gentamicin, and ciprofloxacin were the most prescribed antibiotics. Intravenous antibiotics accounted for 51.8 and 79.4% of total DBDs in first half of years 2000 and 2005, respectively.

More programmed efforts should be designed to decline the irrational and inappropriate usage of antibiotics, especially in academic hospitals.

Continuous medical education programs for physicians and nurses are among the programs with highest importance.

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Sir,

Hydatid disease of the neck region is an extremely rare finding, even in endemic regions, and only a few cases have been reported in the literature.[1-5] A 25-year-old female presented with a 1-month history of gradually progressive swelling in the neck. It was not associated with pain or fever or any other symptom. The swelling was located in the right cervical region, just below thyroid; its size was about 3 × 2 cm and was cystic in consistency. It was non-tender and the overlying skin did not show any signs of inflammation. A submandibular lymph node was also palpable, size approximately 1 × 1cm. X-ray demonstrated a mass in the neck without involvement of deeper structures. Ultrasonography showed a loculated cystic lesion with internal septae near the lower pole of thyroid under the strap muscles of the neck. An excisional biopsy of the mass was performed followed by irrigation by hypertonic saline [Figure 1]. Hematoxylin and eosin (H and E) stained slides were examined which showed all the three layers namely outermost pericyst, laminated layer and the inner germinal layer (which together comprise the endocyst) [Figure 1]. Thus a final diagnosis of hydatid cyst in the neck was made. Biopsy of the lymph node revealed features of reactive lymphadenitis. The patient underwent further investigations and further thorough examination was done. There was no evidence of primary illness anywhere else. Since there was no evidence of primary lesion anywhere else, a final diagnosis of primary hydatid disease of the neck was made. The patient was given 4-week albendazole therapy (400 mg twice a day) and since the cyst was completely excised, no further surgical intervention was done. Presently, she is doing well and there is no evidence of recurrence.

Due to its rarity, the diagnosis of cervicofacial hydatid disease is difficult.[1-4] However, diagnosis can be aided by taking proper history and combining different diagnostic modalities like radiology and serology. Serological tests, include immune hemagglutination, complement fixation, immunoelectrophoresis, skin tests (Casoni intradermal test), enzyme-linked immunosorbent assay (ELISA) and western blot serology. Radiology is a better diagnostic tool than serology.[2] Ultrasonography can clearly demonstrate the hydatid sands in purely cystic lesions, as well as floating membranes, daughter cysts, and vesicles. Some authors discourage the use of fine needle aspiration (FNA) in diagnosing Hydatid disease due to danger of spillage and anaphylaxis.[2] Histopathology is unanimously the preferred and definitive diagnostic option.[2,3]

![Figure 1:](a) Ultrasound showing a loculated cystic lesion with internal septa near the lower pole of thyroid under the strap muscles of neck. (b) Hematoxylin and Eosin (H and E) stained section of a part wall of hydatid cyst showing laminated layer and outermost pericyst layer composed of granulation tissue (H and E ×40). (c) H and E stained section of a part of cyst wall showing laminated layer and innermost germinal layer (H and E ×100). (d) High power view showing both laminated and innermost germinal layer (H and E ×400).