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Hospital-acquired infections at the Institute of Oncology Sremska Kamenica

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A hospital infection is an infection acquired at the hospital by a patient who was admitted for the reason other than that infection. The interval between admission and onset of symptoms must be greater than the incubation period of the infection, otherwise the infection is classified as community-acquired infection (CAI) (1).

The main causes of hospital-acquired infections (HAI) are:

1. the antibiotic therapy (the antibiotic acts not only on the pathogenic microorganism that is the target of the therapy, but also on the whole of the patient's personal flora which it treats selectively);

2. the increase in number of hospitalized patients susceptible to infection (old people, malnourished cancer patients, diabetic subjects, etc);

3. the use of increasingly violent techniques for diagnosis (endoscopy) and therapy (immunosuppressive chemotherapy and steroids, irradiation);

4. the increase in number of people dealing with the same patient (more reservoirs);

5. the increase in patients' movements within the hospital during the hospitalization (operating room, intensive care unit, medical service, physical rehabilitation units, diagnostic imaging and irradiation departments);

6. hospital staff not adequately trained in

prevention of infections;

7. unsuitability of architectural design and sanitary facilities.

Nowadays the greatest problem are hospital infections caused by microorganisms that are normally present in our personal flora but not pathogenic under normal circumstances. But, inadequate procedures or simply antibiotic therapy may enable them to reproduce, spread and implant themselves at a site where they may produce an infection (1).

In the world the prevalence rate of hospital acquired infections is 3,5 - 15% (2-5).

When it is difficult to obtain notifications of HAI regularly, a sample can be taken on a given date.

Prevalence study, also known as cross-sectional study, was done 8-9 February, 2000 at the Institute of Oncology, Sremska Kamenica. The prevalence rate was compiled on the basis of the information collected; this corresponds to the number of cases of HAI recorded on the given date in relation to the number of patients in the department on the same date. This rate has only indicative value.

A total of 311 beds occupied by 196 patients were surveyed, of whom 135 (69%) were female and the rest 61 (31%) were male. The mean age of the surveyed patients was 52,6 years. The mean length of stay in hospital prior to the survey was 11,5 days. 34 patients (17.3%) had urinary catheters, 28 (14.3%) intravenous devices and none was mechanically ventilated at the time of survey. 28 (14.3%) were undergoing chemotherapy and 82 (41.84%) irradiation.

The overall prevalence of infections detect-

ed at the time of survey was 6.63%: 13 infections were judged to be in 12 patients. 8 infections were recorded as being community-acquired (prevalence rate 4.08%) and 5 as hospital acquired (prevalence rate 2.55%). At the Clinic of the Internal Oncology, the prevalence rate of HAI was 3.03% (2 cases out of 66 patients: phlebitis and upper respiratory tract infection). On the Clinic of Surgical Oncology the prevalence rate was 5.45% (3 cases out of 55 patients: 2 cases of urinary tract infection and a case of operation site infection). At the Clinic of Radiology, there were no intrahospital infections.

At the time of the survey 19 patients (9.7%) were receiving antibiotic therapy. In most of the cases this was monotherapy, only one patient was treated with two and one with three drugs. More than two thirds of patients receiving antibiotics were recorded as having no infection; 3 out of 5 patients (60%) with HAI were receiving antibiotics, 4 out of 7 patients (57.1%) of those with CAI. The most frequently used drugs were gentamicin (63.2%), ciprofloxacin (21%), cephalosporins (15.8%), ampicillin (5.3%) and in single cases metronidazole and lincocin. Nine out of 12 (75%) patients with infections were receiving antimicrobial treatment without previous microbiological investigation.

Even the prevalence of CAI and HAI were lower than rates usually reported in European surveys (3-6). The comparisons must be made with great caution. In this study, the population, the mean age, as well as prevalence of risk factors were found to be low and the mean period from admission to the point of the survey was rather short.

This initial survey should not be underesti-

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mated as a powerful tool for planning appropriate infection control measures. Cross-sectional survey should be combined with regular notifications of infections through information collected by the hospital hygiene nurse or hospital hygienist or epidemiologist. Incidence rates should be worked out. Analysis of these various rates by the Hospital Hygiene Committee will reveal the true dimensions of the HAI and make it possible to direct control operations and to

develop the most effective strategies of action.

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ERRATA

In the Archive of Oncology, number 8/3, on the page No. 137, instead of the title:

“Heavy metal and arsenic contamination of food available in Novi Sad in the period from 1994 to 1999”,

the following title should be put:

“Indoor radon survey in Novi Sad”.

We kindly ask the authors and our readers to accept the correction and a sincere apology of the Editorial Board for the unfortunate mistake, which occurred.

Editorial Board