why we use the IHC method and specific markers (or panels of markers) to solve this. IHC allows to confirm a process additionally to be benign or malignant, identify cellular origin of a tumor, proliferation features of pathological cells, as well as state their sensitivity to specific drugs.

First thing first, IHC allows us to answer the question of origin for tumors of uncertain source and development: a panel of antibodies may be used to state some characteristics that are distinctive for specific types of tissue (vimentin, neurofilaments, keratin). As a result, a pathologist's conclusion is no more represented by a process of unknown or uncertain origin.

Secondly, by the means of IHC we can provide information based on molecular classification of tumors: their positive IHC reaction with specific markers, as well as negative, together can be identified as a certain type of tumor. Affiliation to one can be considered by a clinician for further course (possibilities of metastases, invasion). For breast tumors these can be: Luminal type A, Luminal type B, HER2-enriched and «basal-like» types. Moreover, IHC hormonal markers reaction show tissue's sensitivity to hormonal treatment: as for «triple-negative» type it is totally not staid, but in «Luminal type A» estrogen and progesterone receptors are positive which allows a clinical to improve patient's management with appropriate personalized scheme of treatment. Additionally, in cases with positive hormonal panels (progesterone YR 85 and estrogen SP1 antibodies) we describe insensitivity of cells' reaction and their distribution. Abovementioned possibilities of IHC in DP expand information on tumor sample, especially when compared to classic H&E method, evaluate stage of tumors proliferative activity, may confirm presence of invasion, clarify it's source of development and

Conclusions. Immunohistochemistry is an informative method for clinical pathology, that complements initial hematoxylin and eosin histological samples and can be used for molecular typing of malignant processes, prescribing personalized targeted treatment, predicting the course of the disease as well as providing information for successful management of a patient.

STUDY OF BACTERIAL CONTAMINATION OF MILK DEPENDING ON THE SEASON

Shapoval A. Yu.
Scientific supervisor: Tishchenko I.Yu.
The National University of Pharmacy, Kharkiv, Ukraine
microbiology@nuph.edu.ua

Introduction. Today Ukraine is reviewing regulations on the safety and quality of food, milk and dairy products in the first place, in accordance with the WTO Agreement on the Application of Sanitary and Phytosanitary Measures. A high level of quality and safety of milk and dairy products is a very important criterion not only for domestic consumers, but also for potential consumers of quality products within the European Union. The most important indicator of both quality and safety is the level of bacterial contamination of milk. This indicator indicates the sanitary conditions for obtaining and primary processing of raw materials, as well as the possibility of its further use in the dairy industry. But now in Ukraine the general contamination of milk has critical indicators and it is connected, first of all, with the fact that the main suppliers of raw materials are private peasant farms. This whole milk has an increased bacterial contamination, this is primarily due to insufficient and untimely cooling.

Aim. To assess the general contamination - MAFANM, we studied the contamination with mesophilic, psychrotrophic, spore-forming microorganisms and bacteria of the Escherichia coli group (BGKP).

Materials and methods. For microbiological research, we took 10 samples of cow's milk from farms and 10 samples of milk from private (private) farms in each season.

The total number of bacteria was determined according to DSTU ISO 4833: 2006 "Microbiology of food and animal feed. Horizontal method of counting microorganisms. Colony counting technique at 30° C (ISO 4833: 2003, IDT)"

To determine the number of psychrotrophic microorganisms, cultures and colony counts were performed as in the previous case, but incubation was performed in a thermostat at a temperature of 7.0 + 1.0^0 C for 7-10 days. Microorganisms that grew in the created conditions, we identified using the publication "Determinant of bacteria Bergi" (1997).

Spore-forming bacteria were detected by sowing 4, 5, 6 of six 10-fold dilutions of milk, which was heat-treated (heated to 85^0 C for 10 minutes). The obtained pasteurized milk of selected dilutions was placed in Petri dishes, then poured into IPA and kept in a thermostat at a temperature of 30^0 C for 72 hours. After incubation, we counted the number of colonies that grew under these conditions.

Bacteria of the Escherichia coli group were determined according to GOST 30518-97 (Food products. Methods of detection and determination of the number of Escherichia coli bacteria (coliform bacteria)).

Results and discussion. The analysis of the results of the research shows that according to microbiological indicators, the milk obtained from cows living on farms was purer than the milk of cows living on private farms.In all seasons of the year, whole milk from private farms was more contaminated (total microbial contamination was higher) compared to cow's milk obtained on the farm: in winter - 2.9 times, in spring - 1.4 times, in summer - 2 times, in autumn - 2.1 times. The ratio of milk samples that we studied to the presence of mesophilic microorganisms was very similar (3.2 / 1.9 / 1.8 / 1.8, respectively).

The study of the number of psychrotrophic microorganisms in samples of milk from cows from farms in comparison with the milk of private farms showed the following picture: in winter - 2.9 times, in spring - 1.24 times, in summer - 1.5 times, in autumn - 1 , 12 times.

Detection of spore-forming microorganisms and counting their number in all samples of milk from cows from different farms made it possible to investigate that in the spring their number was lower in farm milk than in domestic milk. But in winter (1,3), spring (1,02), summer (1.2) and autumn (1,3) the number of spore-forming microorganisms in different milk samples did not differ significantly.

The study of BGKP in different seasons showed the following patterns: summer and winter were the most "pure" in terms of the presence of BGKP in milk from both cows from farms and from cows from private farms; in the spring the number of microorganisms increased, but slightly and relatively equally in different samples from different farms and farms; but in the autumn there was an increase in the content of BGKP in the milk of cows from private farms.

A possible reason (one of many) for more significant contamination of cow's milk from private private farms is the storage and mixing of different small batches of milk in one container. To the evening, cooled during the night, morning (still warm) milk is added, it creates additional favorable conditions for stimulation of reproduction of microflora which is in milk. It is possible that a certain influence on the development of contamination and activation of existing microorganisms is exerted by the sanitary and hygienic conditions of obtaining, storing, processing, transporting milk, unfortunately, this is our reality.

Conclusions. Analysis of the results of the microbiological study showed that the total bacterial contamination and the number of mesophilic microorganisms in the milk of cows from private farms compared to milk from farms was higher in different seasons. In addition, according to the indicators of bacterial contamination, milk from private farms has not yet met the

requirements of DSTU 3662-97 "Whole cow's milk. Procurement requirements. There was also a pattern of increase in psychrotrophic microorganisms in samples of milk from cows from private farms in winter and spring, and a significant increase in spore-forming microorganisms in summer.

LUNG PATHOLOGY IN CHILDREN OF DIFFERENT AGES: MODERN ASPECTS AND DIAGNOSIS

Shternova N.G., Filimonova N.I.
National University of Pharmacy, Kharkiv, Ukraine
megiddo@ukr.net

Introduction. Respiratory diseases in children of different age groups is a global medical and social problem. Pathology of the respiratory system significantly determines the level of infant morbidity and mortality. Two centuries ago, lung inflammation was considered one of the most dangerous diseases, as most of the patients with this disease died. This disease, occurring in childhood, in a number of cases leads to the inovalidity of affected children in adulthood. This determines the importance of pediatric pulmonology for clinical medicine as a whole. Today the problem of pathogenesis, early diagnosis and treatment of pneumonia has gained special attention and has become one of the topical issues in our time. This pathology is one of the main causes of morbidity and mortality of children of different ages around the world. Over the last decade, mortality from pneumonia has increased dramatically, with severe complications developing in reanimation units, reaching 40-50%.

In European countries pneumonia affects about 15 people per 1,000 inhabitants, while in Ukraine it affects about 40-50,000 every year. Typically, most cases of the disease are caused by Streptococcus pneumoniae. However, in children and adolescents, Mycoplasma pneumoniae is the most common cause and is the most common non-specialised cause of respiratory tract infections, accounting for 40% of all pneumonia cases in children over 5 years of age. The most common causes of non-spontaneous pneumonia include: pneumococcus, haemophilus influenzae and viruses and fungi. It should also be noted that the etiology of lower respiratory tract diseases can vary considerably between age groups. At the present level, an additional problem in the persistence of pneumonia has been the formation of resistance to antimicrobial drugs in the incubators of the disease, which are able to change their genome, mutate, resulting in the incubators becoming more virulent.

Aim. The aim of the research is to study a lung pathology in children of different ages their modern aspects and diagnosis.

Materials and methods. Research objective: to identify peculiarities of lung pathology course in children of different ages and to optimize approaches to pneumonia diagnostics in modern conditions.

Results and discussion. The survey results showed that most cases of pneumonia among children were 3-6 years old (72 children - 40%) and 7-10 years old (51 children - 29%). Only one third of the total number of children aged 11-14 (34 individuals - 19%) and 15-18 (21 individuals - 12%) were recorded. A total of 178 patients of different ages participated in the examination.

Considering the current state of infectious pathology in children, a decreased immune status, inflammatory processes, disruption of microbiocoenosis due to antibacterial drugs and the presence of concomitant pathology are among the causes of lung pathology in children.

The number of patients hospitalized with concomitant diseases was 87 (49% of the total number), which could lead to the development of secondary pneumonia with a background disease. The highest number of opportunistic infections occurred in children aged 3 to 6 years (38 cases -