

all departments of a vessel, as a result are necessary additional pictures in other projections. Proceeding from the aforesaid, we have made attempt to establish correlation of some morphometric parameters (length, diameter, and variant of origin) arteries of pelvis, including obturatory artery, with each other, and on their basis to deduce the formula for mathematical research of anatomic features of iliac arteries branches. Results of research have shown, that diameter of obturatory artery correlates with diameter of an anterior trunk of internal iliac artery ( $R=0,84$ ,  $p<0,05$ ). According to this the formula for modelling of a studied vessel is received:  $d = 0,07375 + 0,12500 * X1$ , where  $d$  - diameter of the obturatory artery;  $X1$  - diameter of the anterior trunk. Thus, results of research have shown authentic correlation of the morphometric parameters of obturatory artery with parameters of other artery of the pelvic region. The received mathematical formula can benefit in diagnostics of vascular system of the cavity of the pelvis.

## The Study of the Action of Physical and Chemical Factors on Microorganisms

Anton Mihail

Academic: Dr. Ciumac Daniela

State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Republic of Moldova

To research the influence of: the irradiation with ultraviolet (UV), the above- and over limit moderate temperatures, the environment's pH, as well as the combination of the above-mentioned factors on microorganisms, aiming the detection of the factor with the highest capacity of disinfection. We have collected air samples and isolated microorganisms from them. Then we've grown the microorganisms on Petri boxes. These Petri boxes were distributed in groups and subjected to different growing conditions (ultraviolet irradiation, action of different types of environment's pH, above- and over limit temperatures). After the incubation period, we have calculated the number and the percent of survived colonies as well as the disinfection capacity of each factor. This study showed that all the above mentioned factors, in some measure, affect the growth and development of microorganisms. UV radiation has a high capacity of disinfection. Even a short time influence (5 minutes) causes a significant decrease (28%) of the microorganisms number. Increasing the duration to 10 minutes, we didn't obtain meaningful results (efficiency increased by only 8%). In case we use UV irradiation for 15 minutes, we get an efficiency of about 64%. Above- and over limit moderate temperatures don't visibly affect the number of microorganisms (7% for low temperatures and 29% for high temperatures). Environmental acidity is a factor with a noticeable influence on the number of microorganisms. Both strong acidic pH ( $pH = 2$ ), as well as the strong basic pH ( $pH = 12$ ) cause an obvious decrease of the microorganisms number (equal to 54% and 66% respectively). Combining the high temperatures, the acid environment and ultraviolet irradiation for 15 minutes, we get an 85% result. Combining ultraviolet irradiation for 15 minutes, basic pH and low temperatures, the disinfection capacity decreases up to 64%. The method with the lowest efficiency is the action of over limit moderate temperatures. The best results on the disinfection capacity were obtained by combining physical and chemical factors. Each factor separately taken is unable to achieve such results.