

Riječ Uredništva

KLIMATSKE PROMJENE I UTJECAJ NA INFEKTIVNE BOLESTI

Možemo reći da je polovicu dvadesetog stoljeća obilježio kraj jedne od najvažnijih socijalnih revolucija u povijesti – eliminacija infektivnih bolesti kao važnog čimbenika društvenog života

Sir MacFarlane Burnett, 1962
Nobel Awarded

I zaista smo počeli vjerovati da smo pobijedili infektivne bolesti polovicom dvadesetog vijeka, ali nam je na početku trećeg milenija priroda pokazala da ćemo infektivne bolesti, i to brojne nove ili stare u promijenjenom obliku, morati još dugo stavljati u prvi plan medicinskog i javno društvenog interesa.

Prema podacima Svjetske zdravstvene organizacije, 26 % (oko 15 milijuna godišnje) uzroka smrtnosti u svijetu pripada infektivnim bolestima. Međutim ako taj prosjek želimo raščlaniti, onda su podaci za neke zemlje porazni: npr. u Africi je 62 % smrti uzrokovano infektivnim bolestima, u jugoistočnoj Aziji 31 %, zapadnom Pacifiku 11 %, istočnom dijelu Mediterana 34 %, u obje Amerike 10 %, a u Europi samo 5 %.

Prema istim podacima na prvom mjestu među infektivnim bolestima su respiratorne infekcije s oko 4 milijuna smrti godišnje, slijede HIV/AIDS s oko 3 milijuna smrti, zatim dijarealne bolesti s oko 2 milijuna smrti, tuberkuloza s preko 1,6 milijuna, te malarija s oko 1,3 milijuna smrti godišnje, a nisu zanemarive brojke ni smrtnosti od virusnih hepatitisa, spolno prenosivih bolesti (osim HIV-a), upalnih bolesti središnjeg živčanog sustava, hemoragijskih vrućica i drugo.

Smatra se da u svijetu postoji oko 2 – 3 milijuna najrazličitijih mikroorganizama, potencijalnih uzročnika bolesti, a da je do danas identificirano tek oko 5 %.

Vrlo je zanimljivo da oko 75 % svih mikroorganizama, uzročnika infektivnih bolesti, otkrivenih u posljednjih 30-ak godina pripada u grupu zoonoza.

Niz faktora sudjeluje u pojavi i razvoju infektivnih bolesti, te promjeni bioepidemioloških, patogenetskih i onda kliničkih karakteristika: svojstva samog uzročnika, stvaranje resistencije na antimikrobnu terapiju, endemsko područje, potrebni vektori i put prijenosa, imuni status pojednca, ali i populacije, urbanizacija i globalizacija, te danas sve zanimljivije klimatske promjene.

Klimatske promjene su sigurno značajan faktor s kojim treba računati u procjeni pojavnosti i razvoja infektivnih bolesti. U posljednjih 50 godina, prema nekim procjenama, temperatura je prosječno viša, a do kraja stoljeća se računa da će porasti za 1 – 3,5 °C, dolazi do otapanja velikih ledenjaka, a razina mora se diže za oko 10 – 20 cm, dolazi do pojačane polucije vode i zraka, zbog neracionalne sječe šuma dolazi do povećanja koncentracije CO₂, fenomena stakleničkih plinova, itd.

Češće su ekstremne vremenske nepogode kao poplave i u krajevima gdje nisu uobičajene, uragani te produženo trajanje toplinskih udara. Ako svemu tome dodamo još sve alarmantiji nedostatak pitke vode, nedostatak hrane i energenata, velike migracije stanovništva, onda je krajnji čas da se zapitamo što možemo učiniti da usporimo ove katastrofične pretkazatelje.

Sve ove činjenice potaknule su Hrvatsko društvo za infektivne bolesti HLZ-a da ove godine za »Dan Prof. Frana Mihaljevića« organizira simpozij upravo na temu »Klimatske promjene i utjecaj na infektivne bolesti«.

Povišenje temperature okoline dovodi do promjena u bioepidemiologiji raznih prenosnika infektivnih bolesti, insekata, ptica, glodavaca, što uz globalizaciju, migracije stanovništva, i vremenske nepogode, dovodi do znatnog širenja endemskih prostora za mnoge infektivne bolesti kao što su malarija, leptospiroze, leishmanioze, hemoragijske vrućice, virusni encefalitisi, kolera i drugo. (Možemo spomenuti da smo prije dva mjeseca u našoj Klinici liječili dvije bolesnice s dengue vrućicom – importiranom.)

Sve ovo upozorava da treba stalno monitorirati kretanje infektivnih bolesti na nacionalnoj, ali i internacionalnoj razini i da treba postojati adekvatna i pravovremena elektronička komunikacija na globalnoj razini.

Uredništvo

Editorial

IN IMPACT OF CLIMATE CHANGE ON INFECTIOUS DISEASES

One can think of the middle of the twentieth century as one of the most important social revolutions in History, the virtual elimination of infectious diseases as a significant factor in social life.

Sir MacFarlane Burnett, 1962
Nobel Awarded

... and we really started to believe that we won the fight against infectious diseases by mid twentieth century. However, at the beginning of the third millennium, the nature has showed to us all that infectious diseases, numerous new or reemerging old ones, shall still remain in the centre of medical and general public attention.

According to the World Health Organization data, 26 % (around 15 million per year) of all causes of death in the world is attributed to infectious diseases.

When we analyze this information, the numbers for some countries are devastating: e.g. in Africa, 62 % of deaths are caused by infectious diseases; in Southeast Asia 31 %, Western Pacific 11 %, East Mediterranean 34 %, both Americas 10 %, and in Europe only 5 %. According to the same data, leading among infectious diseases are respiratory tract infections (around 4 million deaths per year), followed by HIV/AIDS with around 3 million deaths, then diarrheal diseases with around 2 million deaths, tuberculosis with over 1,6 million, malaria with around 1,3 million deaths per year. Numbers representing mortalities from viral hepatitis, sexually transmitted diseases (except HIV), central nervous system infections, haemorrhagic fever, etc. should not be disregarded as well.

It is believed that there are around 2–3 million of various microorganisms, potential disease pathogens in the world, only 5 % of which are identified so far.

Interestingly enough, around 75 % of all microorganisms, potential causes of death, discovered in the last 30 years belong to the group of zoonoses.

Numerous factors participate in the manifestation and development of infectious diseases, causing changes in their bioepidemiological, pathogenetic and clinical characteristics: characteristics of the pathogen itself, development of antimicrobial resistance, endemic area, vectors and route of transmission, immune status of the individual and population, urbanization and globalization, and today becoming increasingly interesting, climate changes.

Climate changes are surely a significant factor that should be taken into consideration when appraising the occurrence and development of infectious diseases. In the last 50 years, according to some estimations, the average temperature has increased, and by the end of the century it will increase by 1–3,5 °C, giant icebergs are melting, sea level is raising for round 10–20 cm, water and air pollution has increased, due to irrational forest clearing the concentration of CO₂ has increased, greenhouse phenomenon is occurring etc.

Extreme natural disasters such as flooding in unusual areas, hurricanes, prolonged heat waves occur more frequently. If we add to all this, an alarming shortage of drinking water, food and energy-

-generating products, population migration, then this is the last moment to ask ourselves what we can do to slow down these catastrophic predictions.

All these facts have prompted the Croatian Society of Infectious Diseases of the Croatian Medical Association to organize the symposium entitled »Climate changes and infectious diseases« on the occasion of »Prof Fran Mihaljević Day«.

Increased temperature in our surrounding changes bioepidemiology of various carriers of infectious diseases, insects, birds, rodents, which, along with globalization, population migration and weather disasters leads to a significant spreading of endemic areas for many infectious diseases such as malaria, leptospirosis, leishmaniosis, haemorrhagic fever, viral encephalitis, cholera etc. (Just to mention here that two months ago two patients with imported dengue fever were treated at the University Hospital for Infectious Diseases »Dr Fran Mihaljević«, Zagreb.)

All this should be considered as a warning to continuously monitor the incidence and distribution of infectious diseases on national and international level and that there should be adequate and timely electronic communication and notification on a global level.

Editorial Board