

Treating prostate cancer
New combination therapy was identified. It may do more than just extend survival but could cure metastatic prostate cancer.

Quality of Iran's laboratory services comparable with advanced nations

Exclusive



Clinical lab specialist Mehdi Boutorabi (L) talking to Iran Daily reporter.

IRAN DAILY

By Sadeq Dehqan

An Iranian specialist hailed the quality of clinical laboratory services in Iran, saying it is in the level of very 'good laboratories' in developed countries.

Mehdi Boutorabi, who will chair the 10th International and 15th National Congress on Quality Improvement in Clinical Laboratories, made the remarks in an interview with Iran Daily.

The international event will be held during April 20-23 in Tehran.

Boutorabi, who specializes in clinical laboratory sciences, noted that clinical laboratories play a "very important" role in improving public health.

He said many medical diagnoses are dependent on laboratory tests.

"Over 70 percent of the diagnosis work pertaining to emergency patients can be carried out through laboratory tests," the specialist said.

He touched upon the large number of clinical laboratories in Iran noting that over 5,000 of these centers are currently active nationwide.

Boutorabi said many countries have integrated laboratories to cut costs and make optimal use of revenues.

He noted that plans have been launched in Iran in the past two years to integrate small laboratories into bigger ones.

The specialist said "low tariffs" of laboratories hinder efforts to equip these centers with modern technology.

"Due to low tariffs, Iranian laboratories do not have adequate earnings to update their capabilities and benefit from the required modern technology," he said.

Boutorabi said the 10th International and 15th National Congress on Quality Improvement in Clinical Laboratories aims to promote clinical laboratory services.

He said the international event would be the largest congress in the field of laboratory sciences ever held in Iran.

The specialist said about 3,500 Iranian experts and over 50 experts from Canada, Belgium, France, the UK, the Netherlands, Germany, Pakistan, India, South Korea, Italy and Sweden are to take part in the congress.

Ninth International Seminar on Immunodeficiency Diseases due on Friday

Health Desk

The Ninth International Seminar on Immunodeficiency Diseases will be held at Children Medical Center in Tehran during April 21-22, said the head of the seminar.

Speaking at a press conference ahead of the seminar, Dr. Asghar Aqamohammadi said Iranian and foreign physicians will take part in the two-day event.

Training workshops and specialized sessions will be held on the sidelines of the event, he added.

He also said physicians from France, Italy and Germany are to participate in the event and give lectures on scientific issues.

Aqamohammadi said between 38 percent and 40 percent of marriages are familial in Iran, adding this is an element for increasing the number of people affected by immunodeficiency diseases.

The number of people who suffer from immunodeficiency diseases stands at one for every 5,000 across US and Europe, while the figure is higher in Iran due to familial marriages, he noted.

He continued that a system for registering those suffering from immunodeficiency diseases was launched nationwide in 1998.

The information of 2,200 patients including clinical and genomic data have also been recorded in the system, he added.

Also, scientific secretary of the seminar said over 300 immunodeficiency diseases have been identified.

Dr. Nima Rezaei said laboratory tests can identify common immunodeficiency diseases.

He said 67 percent of immunodeficiency

patients are victims of familial marriages.

Immunodeficiency (or immune deficiency) is a state in which the immune system's ability to fight infectious disease and cancer is compromised or entirely absent.

Most cases of immunodeficiency are acquired due to extrinsic factors that affect the patient's immune system.

Some people are born with intrinsic de-



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fects in their immune system, or primary immunodeficiency. A person who has an immunodeficiency of any kind is said to be immunocompromised.

An immunocompromised person may be particularly vulnerable to opportunistic infections, in addition to normal infections that could affect everyone.

Immunodeficiency also decreases cancer immunosurveillance, in which the immune system scans the body's cells and kills neoplastic ones.

Children whose mothers were frequent cell phone users during pregnancy were more likely than those of less frequent users to be hyperactive, a new study found.

But lead author Laura Birks is not advising expectant mothers to hang up their cell phones, according to Reuters.com.

She cautioned that she could not say if electromagnetic radiation from cell phones or any number of other factors, such as parenting styles, might explain the link between maternal cell phone use during pregnancy and childhood behavioral problems.

"I would say interpret these results with caution, and everything in moderation."

Birks and her colleagues analyzed data on more than 80,000 mother-child pairs in Denmark, Spain, Norway, the Netherlands and South Korea.

They found consistent evidence of increasing risk of behavioral problems — particularly, hyperactivity — in five- to seven-year-old children the more their mothers talked on cell phones during pregnancy.

Birks, who is a doctoral student in biomedicine at the Barcelona Institute for Global Health in Spain, said, "Given that there is no known biological mechanism that could lead prenatally emitted cell phone radiation to promote hyperactivity in offspring, the results were surprising."

The association held firm across

Should pregnant mothers hang up their cell phones?



peexels.com

five countries and time periods.

Offspring of mothers who reported being on at least four cell phone calls a day, or in one cohort speaking on a cell phone for more than an hour a day, were 28 percent more likely to be hyperactive than offspring of mothers who reported being on one or fewer calls a day, researchers found after accounting for a variety of confounding variables, such as maternal age, marital status and education.

The data spanned a variety of time periods from 1996 through 2011. Only the earliest cohort, in Denmark starting in 1996, had enough women

who never used a cell phone while pregnant to study women who did not use cell phones during pregnancy.

But the children of mothers who never used cell phones while pregnant had a lower risk of behavioral and emotional problems than any of the children whose mothers used cell phones, according to the report in Environment International.

Dr. Robin Hansen, a pediatrician and professor at the University of California, Davis in Sacramento found the report raised more questions than it answered.

She asked, "Is it something about the cellphone itself? Is it something that impacts your parenting behavior? Those are issues that can't be answered by this study."

As a pediatrician who works with children who have behavioral problems, Hansen is less inclined to consider cellphone radiation and more inclined to consider parenting styles, habits and personalities as a possible link between maternal cellphone use and childhood hyperactivity.

Hansen added, "Now we have to dig deeper and figure out why. Is it the electronic signals that go through your brain and your body, or how it changes your interactions with your child postnatally?"

"American pediatricians advise parents to limit their children's screen time. But parents also need to consider how their time spent tethered to their phones takes them away from their children."

"When parents stare at their phones and fail to respond to their kids, their children quickly learn how to get the attention they crave."

"It's not until you cry or you throw something or make a lot of noise, that your parents shift their attention from the cellphone to you."

So children learn to make a racket in an effort to pull their parents toward them and away from their devices.

She added, "It reinforces hyperactive, attention-getting behavior."

Heart health affected by body's zinc supply: Study

Researchers in Munich, Germany have identified a link between the level of zinc in the body and the risk of cardiovascular issues related to oxidative stress.

Oxidative stress occurs when more free radicals are generated in the cell than can be intercepted by antioxidants like vitamin E, and it is a predisposing factor for heart disease, UPI wrote.

Previous research has shown that a severe lack of zinc is associated with increased cellular stress, however, such an extreme shortage is considered very rare.

Researchers at the Technical University of Munich (TUM) showed the association between the total amount of zinc in the body and cardiac function.

The team monitored two antioxidants — glutathione and vitamin E — in young piglets.

Glutathione and vitamin E disable free radicals, but vitamin E is responsible for the integrity of the cell membrane that shields the cell contents from the environment.

The piglets were deprived of nutritional zinc to varying levels for a few days to allow researchers to determine how a declining amount of zinc in the body affected the piglets' heart

muscles.

Researchers found that the concentration of glutathione and vitamin E in the heart muscle declined with the level of zinc affecting the heart's ability to handle oxidative stress.

Daniel Bruggen, chair of Animal Nutrition at TUM, said, "The body was no longer able to compensate for the



UPI

resulting shortage of zinc, even though tests only ran a few days.

"After the first phase, during which a reduction in tissue zinc concentration was observed, the heart muscle intervened and increased the amount of zinc back to the basal [control] level."

"However, this increase took place at the expense of the zinc content of other organs — above all the liver, kidneys, and the pancreas."

Researchers at Johns Hopkins have discovered a direct biological and molecular association between air pollution and chronic nasal symptoms.

According to the Centers for Disease Control and Prevention, or CDC, more than 29 million people in the US, about 12 percent of all adults, have a chronic sinusitis diagnosis causing congestion, stuffy, runny noses, pain and sinus pressure, UPI reported.

Previous studies have linked air pollution to chronic inflammation of nasal and sinus tissues but there had not been direct biological and molecular evidence until now.

Air pollution linked to year-round runny noses

Researchers exposed 38 male mice to filtered air or concentrated Baltimore air with particles measuring 2.5 micrometers or less, which excludes most allergens like dust and pollen.

The aerosolized particles were 30 to 60 percent lower than the average concentrations of particles of a similar size in cities like New Delhi, Cairo and Beijing.

Dr. Murray Ramanathan, associate professor of otolaryngology at Johns Hopkins University School of Medicine, said, "In the US, regulations have kept a lot of air pollution in check,

but in places like New Delhi, Cairo or Beijing, where people heat their houses with wood-burning stoves, and factories release pollutants into the air, our study suggested people are at higher risk of developing chronic sinus problems."

The mice were divided into the two groups with 19 mice being exposed to filtered air and 19 breathing polluted air for six hours a day, five days a week for 16 weeks.

Researchers used water to flush out the noses and sinuses of the mice and examined the inflammatory and other cells in the fluid under a

microscope.

They found many more white blood cells that are a sign of inflammation, including macrophages, neutrophils and eosinophils in the mice exposed to the polluted air compared to mice exposed to filtered air.

The mice exposed to the polluted air had nearly four times as many macrophages than mice exposed to filtered air.

Researchers also compared the cells flushed out of the nasal and sinus passages and found higher levels of messenger RNA — the

blueprints of DNA needed to make proteins — in the genes for interleukin 1b, interleukin 13, oncostatin M and eotaxin-1 in the nasal fluid of mice that breathed the polluted air compared to mice that breathed filtered air.

There were five to 10 times higher concentrations of cytokines — chemical messengers that cause an immune response — involved in inflammation in the mice that breathed the polluted air than those that breathed the filtered air.

Ramanathan said, "We've identified a lot of evidence that breathing in dirty air directly causes a breakdown in the integrity of the sinus and nasal air passages in mice."