

Quality control in laboratories is badly needed

DR TAHMINUR RAHMAN

Accurate, reliable, timely delivery of diagnostic tests are essential for diagnosis, treatment and cure of the disease and prevention of long term complications developing from the disease. This also cause unnecessary harassment from erroneous results, expense of excess money, mental and physical constrains of patients, their relatives and the physicians. How we can achieve this goal or how can we get accurate, reliable and timely results?

This could be done by strict quality assurance (QA) and quality control (QC). This system should be monitored by a central reference laboratory to be established by the government along with the help of Society of Pathologists, Bangladesh Medical

Association, Physicians, Surgeon and other specialists of medical science, peoples representatives, journalists, social workers, NGOs and other professional bodies.

How to implement QC in laboratory?

Quality control can be implemented under two headings –

(a) Internal or intra laboratory QC – performed by individual labs at their own levels. It forms the day to day basis working quality assurance; and

(b) External or inter laboratory QC-performed by many labs at the same time, monitored by one. It is costly. It will also vary for different branches of laboratory medicine.

General faults in wrong test results include if the sample is sent without identification number and name of the test, collection date, appropriate container,

sending of surgically removed specimens cut into pieces to different labs, samples without having any clinical history, containing no provisional diagnosis, samples sent without providing any other relevant positive/negative results and radiology/imaging reports/film.

Fault in part of the diagnostic laboratory includes misidentification of patients due to incomplete ID, specimen container incorrectly labeled, writing a label partly erased or illegible and disparity between request from and specimen. This may come from faulty specimen i.e. a specimen is not correct, inadequate, collected at incorrect time.

Fault may arise from technical aspects for example if principle and procedure of the test is not followed strictly, reagents, standards, QC materials are not

prepared, mixed, processed properly and performance standards are not followed strictly. Also faulty test results may come if reporting, and checking of results printed are not verified properly, interpretation of test results not considered seriously.

Some other aspects of QA & QC

It is important that some other aspects of laboratory procedure should also be implemented strictly by all Lab authority. This includes – laboratory safety-wearing of lab coats, protective gloves, goggles is mandatory while working in a lab. Safety of lab workers from accident, emergency, fire, contamination from different diseases, effective vaccination from deadly diseases like HBV. Dividing the laboratory in to low medium and high risk zones and display of hazards sign

is also an important part of QA. Disposal of laboratory waste-disposal of laboratory waste material like blood, stool, urine, pus, other body fluids, disposable syringes, needles, cotton swabs by incineration, or at least by autoclaving and then disposing in a drain, or dumping in trench is a must and integral part of QA.

It is evident from the discussion above that the purpose of total health care system is to correctly diagnose the disease, identify the factors responsible for the disease and take appropriate preventive and curative measures to control the disease.

The pathologists and laboratory people are very much involved in the correct diagnosis, effect of treatment and follow up of the patients. For correct diagnosis quality assurance and quality control are very important.

A test wrongly done is worse than a test not done.

It is very important to maintain QA and QC for reliable, quick and dependable results in shortest possible time. This will help the clinicians to come to a correct diagnosis and treat the patient early. This will lead to early recovery and save working time, money for the patient and the Nation. But to achieve this all the relevant parties involved i.e. the clinicians, pathologists, Patients all have equal responsibilities.

To monitor QA & QC, establishment of a Central reference laboratory and Institute of Pathology is a need of the time.

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The writer is the head of the department of Pathology of Ibrahim Medical College, Dhaka.

Facts about scabies

DR M KARIM KHAN

Scabies is a itchy skin condition caused by tiny mites that dig tunnels underneath the skins surface. When scabies mites are fully grown, each mite is no bigger than the size of the point of a pin.

When someone gets scabies, the female mites dig under the top layer of skin. There they lay eggs and die after about a month. New mites come out to the skin surface from the eggs. The females mate with the males and then the males die and the females dig back under the skin to lay new eggs. This life cycle takes place 2-3 weeks. Incubation period of scabies is 4-6 weeks. Once away from the human body mites does not survive more than 48 to 72 hours. But while on human body may survive for one month or more.

How some one get scabies?

It is a contagious disease. It spreads by direct, prolonged, skin to skin contact with a person already infested with scabies. Contact must be prolonged, a quick handshake or hug will usually not spread infestation. Infestation is easily spread to sexual partners and house hold members. Infestation may also occur by sharing clothing, towels and bedding.

Who can get scabies?

Any one can get scabies, from little baby to old, rich and poor, clean and dirty – all can get infected. It needs only prolonged skin to skin contact with scabies patient or with their clothing.

What happens if some one get scabies?

Itching, irritation, secondary infection, pyoderma, rash, burrows in the skin. Special affection of mites are skin folds, interdigital (in between fingers) space, wrist, axilla, around areola, groins,

scrotum. Itching increases at night. People with weak immunity and the elderly are at risk for a more severe form of scabies, called Norwegian or crusted scabies. Following secondary infection of skin, acute glomerulonephritis (acute inflammation of the glomeruli of kidney) may occur and a common cause of renal failure in our country.

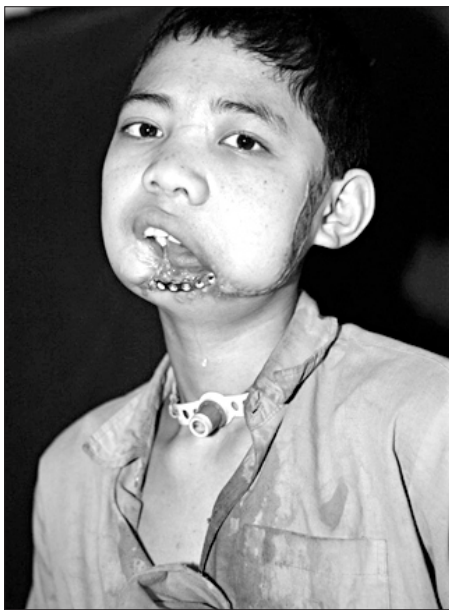
How to treat scabies?

Many drugs are available against scabies, namely 25% Bezyll benzoate lotion, Gamma benzene hexachloride, monosulphurum, crotamiton cream and lotion, Permethrine cream 5%, Ivermectin etc. Among the above mentioned drugs 5% Permethrine cream is very much popular and effective and drug of choice in our country. After taking hot bath with soap, body to be dried up with a towel and then permethrine cream to be applied to entire skin below neck and allow to remain for 8 hours and can be repeated 1-2 weeks later. Entire family to be treated at a time and all used clothing to be properly cleaned with hot water and detergent. Antihistamin for itching and oral antibiotic for secondary infection may be used. If many people are affected in a camp, school, dormitory, oral Ivermectin tablet is the drug of choice. Previously we had no Ivermectin preparation, now a pharmaceutical company is producing the drug locally.

Itching may be continued for 2-3 weeks even after treatment, but it does not mean treatment was not effective. To prevent infestation again one should maintain high level of personal hygiene and avoid contact with the scabies patient.

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Dr M Karim Khan is an Associate Professor of Department of Pediatrics of Community Based Medical College, Mymensingh. [E-mail: khan1997@btbt.net.bd]

Bringing back hope and dignity



Joyanto Chakma has now returned to his normal life after the reconstructive surgery by the Australian team.

TAREQ SALAHUDDIN

While the Australian cricketers are occupying the headlines in national newspapers and television, another team of Australians is about to slip into Bangladesh to make their mark.

Surgeons from Interplast, an Australian team of volunteer plastic and reconstructive surgeons, anaesthetists and nurses arrived here to extend the growing Bangladeshi-Australian links by performing life-changing operations on local children.

Interplast Australia is a non-government organisation formed by the Royal Australian College of Surgeons and Rotary International in 1983. Since then, it has sent up to 25 teams a year to countries in the Asia Pacific region as well as Africa. More than 15,000 patients have been treated and given a new start to

life.

At the Dhaka Medical College Hospital the Interplast team will operate on a large number of patients. The focus of the Interplast programme is to discuss advanced surgical skills with local doctors as well as operating. This will involve demonstrating the finer points of microsurgery, burn surgery and correction of facial deformities such as cleft lips and palates.

They are working at the Burn and Plastic Surgery unit of Dhaka Medical College Hospital.

Each year Interplast Australia also brings a number of patients with serious injuries or deformities to Australia where they can receive extended reconstructive surgeries. One of these patients was 13 year old Joyanta from Chittagong.

Joyanto Chakma was badly mauled by a female bear in Chittagong Hill Tract around

August 2004 and lost a major portion of his lower jaw.

He was treated in Chittagong Medical College then transferred to Dhaka. The case was very complicated to treat here.

Fortunately Interplast met Joyanto in November 2004 during their first programme in Bangladesh.

The horrific injuries to his face were too extensive to treat in Bangladesh so he was flown to Australia for surgery.

He was taken to Melbourne Australia, where he has had 7 operations to reconstruct his jaw and lower lip etc. He has now returned to Dhaka with the same team and back to his normal life. Joyanto is now 15 years old.

"Being able to give Joyanto a chance to start over again is a very satisfying thing to do" said surgeon David Hunter-Smith. "During this visit, we hope to treat at least another 50

patients and pass on a few advanced techniques to local surgeons as well."

"The facilities available in Bangladesh in the field of plastic and reconstructive surgery is very inadequate in comparison with the need of the country", said Dr S L Sen, project director of Burn and Plastic Surgery Unit of Dhaka Medical College Hospital. "The technology transfer by the foreign doctors are very much helpful to expand the facilities and increase the skill and experience of local doctors. It will also help to build awareness among us", he added.

This is the third visit of the team to Bangladesh. The Interplast team will be in Dhaka till May 4, 2006.

Hypertension and heart disease

DR MD HABIBE MILLAT

Hypertension or high blood pressure is considered a silent killer, because many people with this disease have no symptoms. Over time, this increase in blood pressure (BP) can damage the blood vessels or vital organs. This can lead to strokes, heart attack, or kidney disease. Hypertension is one of the most common risk factors for heart disease.

There are approximately 10 percent of male population and 15 percent of female population suffering from high blood pressure in Bangladesh. Over all prevalence of hypertension is 65 per cent among elderly (over 60 years old). Incidences are higher in urban than in the rural areas.

BP can change from minute to minute, especially when we are excited or afraid, and cause an increase in pulse and a rise in the pressure inside our blood vessels. It also is affected by changes in posture, exercise, sleeping, and medications. Monitoring and

treating blood pressure is important because damage to arteries begins at fairly low blood pressure levels. Damaged arteries greatly increase the risk for heart attack, stroke, kidney failure, and atherosclerosis.

Hypertension can lead to two major forms of heart disease. These are coronary artery disease and heart failure.

Coronary artery disease occurs when the blood vessels that supply blood to the heart muscle (coronary arteries) are narrowed or blocked. This narrowing or blockage most often is caused by the buildup of fatty deposits, which is called atherosclerosis. Hypertension increases the risk of atherosclerosis by damaging the lining of the arteries and increasing the likelihood that fatty deposits may form in them. Over time, this can lead to a heart attack.

Hypertensive heart disease occurs when high BP causes the walls of the lower left heart chamber (left ventricle) to become thick and stiff, which affects the heart's

pumping ability. This may in turn lead to heart failure, a condition in which the heart cannot pump enough blood to meet the needs of the body.

Treating hypertension early can decrease the chances of having heart problems in later life. A healthy low-fat, low-salt diet and healthy lifestyle habits, such as getting more exercise, losing weight, quitting smoking, and managing stress, help control high blood pressure. Healthcare providers often recommend these methods to control blood pressure before turning to medications. The most important points for people with high blood pressure to remember are: follow your doctor's advice, stay on your medication.

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Dr Md Habibe Millat MBBS, FRCS (Edin) is a Senior Specialist Registrar, Department of Cardiothoracic Surgery, Cork University Hospital, Republic of Ireland. Email: mhmillat@hotmail.com

HAVE A NICE DAY

DR RUBAIUL MURSHED



All health information to keep you up to date

Elderly assistance from cholesterol drugs

A study has found cholesterol-lowering drugs which are already a support of cardiac care for the middle-aged, also prevent heart attacks in elderly people.

The drugs, called statins, are widely prescribed to people with even modestly elevated cholesterol levels, and the new results are likely to enlarge their use.

Many studies so far have looked at people in their 50s and 60s. The new research was intended to see if the drugs improve the quality of life of people in their 70s and beyond, even though their life expectancy is relatively short.

The study involved 5,804 people between the ages of 70 and 82 in Ireland, Holland and Britain. All were considered at increased risk because of coronary artery disease because of other

conditions, including diabetes, high blood pressure or smoking.

Among the findings:
a. The drug reduced LDL, the bad cholesterol, by 34 per cent.

b. Deaths from coronary disease fell 24 per cent in those getting the statin.

c. Strokes were not affected by the treatment. However, longer treatment might still show a benefit.

The study also found that people on statins had a 24 per cent increase in new cancer diagnoses. Then again, the researchers dismissed this as a coincidence, saying no other study found a link between statins and cancer, and there was no reason to think the medicines could start out the disease so quickly.

First Aid



Black eye



The so-called black eye is caused by bleeding beneath the skin around the eye. Sometimes a black eye indicates a more extensive injury, even a skull fracture, particularly if the area around both eyes is bruised or if there has been a head injury. Although most black-eye injuries are not serious, bleeding within the eye, called a hyphema, is serious and can reduce vision and damage the cornea. In some cases, abnormally high pressure inside the eyeball (glaucoma) also can result.

To take care of a black eye:
● Using gentle pressure,

apply a cold pack or a cloth filled with ice to the area around the eye. Take care not to press on the eye itself.

● Apply cold as soon as possible after the injury to reduce swelling, and continue using ice or cold packs for 24 to 48 hours.

● Be sure that there is no blood in the white and colored parts of the eye.

Seek medical care immediately if you experience vision problems (double vision, blurring), severe pain, or bleeding in the eye or from the nose.

Did You Know?



Unhealthy dieting may fuel weight gain

Teens who try to control their weight by skipping meals or using laxatives are actually more likely to be overweight in later years, research indicates.

"We found that dieting, and particularly unhealthy weight control behaviors, were not effective in weight management over time, and were actually associated with weight gain," study author Dr Dianne Neumark-Sztainer, of the University of Minnesota, told. "We concluded that dieting was ineffective and even dangerous," she added.

Previous researchers have also reported an association between dieting, obesity and eating disorders. In one study, researchers found that dieting adolescents – girls and boys – were more likely to experience weight gain than nondieters and in other studies, involving middle and high school girls, researchers found that those who dieted had a higher risk of becoming obese than those who did not diet.

Neumark-Sztainer and her colleagues further explored the association in a five-year study of 2,516 adolescents who completed Project EAT (Eating Among Teens) surveys in 1999 and 2004.

Responses to the 1999 survey indicate that over half (57 percent) of the girls and one quarter (25.3 percent) of the boys dieted and roughly 58 percent of girls and 31 percent of boys skipped meals, used laxatives or otherwise engaged in unhealthy weight-control behaviors. By 2004, however, 27 percent of girls and 25 percent of boys were overweight.

In fact, teens who used unhealthy methods of weight

control in 1999 were about three times as likely to be overweight by 2004 than those who did not use any weight control behaviors.

These unhealthy dieters were also at a six-fold higher risk for binge eating with loss of control and were also much more likely to practice self-induced vomiting and to use diet pills, laxatives and diuretics than their peers, study findings indicate.

In light of the findings, "teens should avoid dieting and the adults in their lives need to help them to do so," Neumark-Sztainer advised. "Dieting tends to be a short-term, ineffective behavior," she explained, adding "we've all seen people say, 'I'm starting my diet on Monday so I can eat what I want now' or 'I broke my diet... so I might as well go all out.'"

"Instead, teens should be encouraged to engage in eating and exercise behaviors that can be implemented over a long period of time," Neumark-Sztainer told.

Adults should also model healthy behaviors for their children, focus less on their child's weight and more on his or her overall health, and provide a supportive environment whereby their children can freely discuss their weight concerns and other issues, according to Neumark-Sztainer. She refers to these actions as "cornerstone behaviors" families can engage in to help their teens achieve a healthy weight and positive body image.

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Source: Journal of the American Dietetic Association.



Your Doctor



Prof Dr Md Muhibur Rahman
Nephrologist
National Institute of Kidney Diseases & Urology (NIKDU)

Dear Doctor,
I am 26 years old. Suddenly I developed pain in my back above the hip. I also developed fever (103° F) with vomiting and painful micturition. I visited a doctor who said that this could be resulted from stone in my urinary tract.

Now what can I do for permanent relief of the condition? If it is due to stone, what is the procedure to remove it? Please suggest me a solution. Thanks and best regards – Sumi

Dhaka

Answer:
First, you have to explore the underlying cause for your condition. You should not take medicine without finding out the actual cause. This is why

you can perform some tests like routine examination of urine, renal function tests, ultrasonography, x-ray of kidney and urinary bladder region and so on after the advice of a specialist doctor. These may help you to find out the cause. If your condition is due to stone, you can be sure about the size and position of the stone from the x-ray. If the size of the stone is small, it could be crushed or if the size is big, then you may need surgery.

After assessment of all the facts, you should proceed for further treatment options. For proper clinical and laboratory diagnosis, you should consult a nephrologist.

On coming issue "Your Doctor" will respond to problems of neuromedicine (diseases of nervous system). Send your questions to Your Doctor, Star Health, The Daily Star, 19, Karwan Bazar, Dhaka 1215 or e-mail your problem to