

New cardiovascular hospital in Astrakhan, Russia

Three years ago the Russian authorities built a hospital for cardiac surgery – the Astrakhan Centre for Cardiovascular Surgery. It was intended to serve a population exceeding 12 million inhabitants who previously had no access to cardiac surgery. Areas of unrest such as Chechnya, Ingushetia and Dagestan are included in the catchment area.

Mons Lie

uxmoli@ous-hf.no

International Collaboration Unit,
Oslo University Hospital, Ullevål

Steinar Solberg

Department of Cardiovascular and Thoracic Surgery
Oslo University Hospital, Rikshospitalet

Harald Lindberg

Department of Cardiovascular and Thoracic Surgery
Oslo University Hospital, Rikshospitalet

Øyvind Skraastad

Department of Anaesthesiology
Oslo University Hospital, Rikshospitalet

Since the early 1990s there has been close cooperation within the field of cardiac surgery between the University Hospital of North Norway together with the Oslo University Hospital on the one hand, and City Hospital No1 in Arkhangelsk on the other (1–3).

The head of adult cardiac surgery, Igor Chernov, who has taken part in this cooperation, was headhunted from Arkhangelsk to Astrakhan to be in charge of the department. Before starting the surgical activity in Astrakhan, Igor Chernov visited Oslo University Hospital together with hospital director Dmitry Tarasov, who also is a cardiac surgeon, and a group of leading clinicians.

An old city on the Silk Road

Astrakhan is situated on the delta of Europe's largest river – the Volga – approximately 150 km before it meets the Caspian Sea. The city was founded by Ivan the Terrible in 1558 and has a population of just over 500 000 inhabitants. It is an important meeting place between the Moslem and the Russian orthodox population on the Silk Road between East and West.

Here Ivan the Terrible built a castle – a Kremlin – to defend this outpost of the large Russian empire. At that time the castle was surrounded by water. Now the river has changed course and the castle, with its beautifully restored towers, fortresses,

churches and military quarters, lies surrounded by the city with its old wooden houses between large apartment buildings.

Astrakhan has a university with a medical faculty founded in 1918, a big new theatre and restaurants run by immigrants from Uzbekistan and other surrounding populations. The border with the independent Republic of Kazakhstan is only 100 km from the city while the border between Astrakhan Oblast (county) and Iran, which has an embassy in the city, runs further out in the Caspian Sea.

There seems to be very little tourism despite the fact that the city is renowned for its fishing and hunting facilities in addition to sturgeon and black caviar. In the Caspian Sea there are large quantities of petroleum and natural gas. The huge cranes in the har-

bour and the large helicopters on the airfield testify to considerable activity.

Religion is important in post Soviet Russia. The Moslem third of the population are indistinguishable on the street from their Orthodox Russian fellow citizens, and the different religious groups with their mosques and their churches live side by side without conflict.

Decentralising highly specialised medicine

Astrakhan Centre for Cardiovascular Surgery has 167 beds, four operation theatres and modern x-ray equipment and laboratories. There are two departments for adult cardiac surgery with 50 beds each, one for congenital cardiac surgery with 17 beds and a department for arrhythmias with 50 beds.



The catchment area for the hospital in Astrakhan is enormous and patients are also received from Chechnya, Ingushetia and Dagestan.

There is one intensive ward for adults and one for children. The hospital has 700 employees, including 125 doctors and 250 nurses. Hospital director Dmitry Tarasov informed us that 11 500 therapeutic procedures and 72 000 examinations were performed during the first three years. A total of 6 000 patients are admitted every year.

All examinations and treatment are free of charge. The state authorities cover all the hospital costs. So far the hospital has been paid per treated patient but from next year it will have a fixed budget requiring an agreed number of procedures. The cost for one operated patient is approximately 70 000 NOK regardless of procedure or the length of hospital stay. As pointed out by Dr Tarasov, this makes simple routine procedures profitable, while complicated operations using implants, or where complications occur, may lead to a deficit. In his opinion the financial costs affect treatment strategy only to a small extent: for example, the fact that only 1.5 PCI is carried out for every aorto-coronary bypass.

Modern surgery of the highest international standard is conducted here on adults and children. We witnessed percutaneous vein harvesting, mini invasive mitral valve surgery and Ross operations for aortic valve replacement. Regarding congenital surgery we observed an arterial switch procedure with transposition of the great vessels and closing of VSD through a right sided thoracotomy.

In the department headed by Igor Chernov there are three consultants and three trainees who together perform in excess of 1 000 open heart operations pr year. In addition they carry out carotid endarterectomies in addition to surgery on both the thoracic- and abdominal aorta, but do not perform lung operations. The department has three full time cardiologists. The anaesthesiologists serve the whole hospital without being allocated to any special department.

The doctors are recruited from all parts of Russia. They are young and concentrated on clinical work with a minimum of administrative burdens. It is obvious that the hospital benefits from being small with a minimum of bureaucracy and a management very close to the daily clinical work. Hospital director Tarasov himself occasionally performs open heart operations.

There appeared to be good teamwork, enthusiasm and great transparency. The theatres are fitted with the latest and most modern equipment, and we got the impression that everything is done to achieve clinical excellence. They seem to lack nothing and in return they work hard. The trainees come straight from medical school and work without pay for two years. If they are then accepted, they start operating and receive a salary.

What is the situation regarding waiting lists, selection of patients and transport in this enormous area the size of France?



The hospital logo decorates the floor of one of the corridors. Photo Steinar Solberg

How is the follow-up after discharge and rehabilitation? The patients are by and large referred by cardiologists in the area. The head of congenital cardiac surgery does, however, often visit the districts to examine patients and select those in need of operation. It is very rare that cardiologists refer patients above the age of 65 for surgery.

The hospital has a short waiting list and the patients can normally choose themselves when they want to be operated. All transport is by car and rail since there are no airfields apart from the one in Astrakhan in the catchment area. This limits emergency operations with the result that the hospital only had 6 acute aortic dissections, type A

«It is obvious that the Russian authorities regard medicine as a means by which this enormous country can be held together»

last year, and no PCI for acute myocardial infarct. The hospital has no organised rehabilitation programme but is planning to organise one. The doctors did express concern regarding the follow-up of patients, especially those requiring anticoagulation following valve implantation.

New trend

In Russia highly specialised medicine has traditionally been centralised to Moscow, St. Petersburg and a few other cities. Medical care of the population has not been given economic or political priority in Russia neither before, during nor after the Soviet era.

Astrakhan Centre for Cardiovascular Surgery represents a positive change to this tradition. Vladimir Putin has visited the hospital twice. Thus the emphasis here is not only on financial resources. Confirming the intention to decentralise medical care, the state authorities have built seven such centres in parts of Russia where previously there was no access to cardiac surgery. Dr. Tarasov told us that together these operated 30 000 patients last year.

Similar decentralised highly specialised hospitals are being planned to cover the specialties: hip prosthesis, traumatology and cardiology. In other words the focus is on more specialised institutions rather than complete hospitals. Priority has clearly been given to the health budget under Vladimir Putin. It is obvious that the Russian authorities regard medicine as a means by which this enormous country can be held together, and that the health service is important to combat a reduction in the population as well as much of the unrest threatening this superpower. For those of us who have worked with Russian medicine in North West Russia since the beginning of the 1990s a dramatic change seems to be in process. The expressed wish of Russians to have professional contact with specialised medicine in the West is something to which Norway as a neighbouring country should respond. In this lies an interesting challenge to Norwegian medicine.

Mons Lie (born 1938)

is a specialist in general, vascular, and thoracic surgery. Former head of the Department of Cardiovascular and Thoracic Surgery, Oslo University Hospital, Ullevål. Presently senior advisor in the International Collaboration Unit, Oslo University Hospital. The author has completed the ICMJE form and declares no conflicts of interest.

>>>

Steinar Solberg (born 1953)

is a specialist in general, vascular, and thoracic surgery. Consultant at the Department of Cardiovascular and Thoracic Surgery, Oslo University Hospital, Rikshospitalet.

The author has completed the ICMJE form and declares no conflicts of interest.

Harald Lindberg (born 1945)

is a specialist in general, vascular, and thoracic surgery. Head of the Department of Congenital Cardiac Surgery. Professor, University of Oslo.

The author has completed the ICMJE form and declares no conflicts of interest.

Øyvind Skraastad (born 1958)

is a specialist in anaesthesiology. Acting head of the Division of Critical Care, Oslo University Hospital.

The author has completed the ICMJE form and declares no conflicts of interest.

References;

1. Solberg S, Lie M. Lenin lever! Tidsskr. Nor Lægefor 1999; 119: 404–5
2. Lie M, Solberg S. Fallots tetrade og Sovjetunionens fall. Tidsskr. Nor Lægefor 2004; 124: 382–3.
3. Horjen AW, Tungusov D, Chernov I et al. Pediatric cardiac surgery in Northern Russia. Results from an international cooperative program. Scand cardiovascular J 2011; 45: 187–92.