

XXII. Ulusal Türk Ortopedi ve Travmatoloji Kongresi

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XXII. Ulusal Türk Ortopedi ve Travmatoloji Kongresi

Türkçe Konuşulan Konuk Ülkeler Sözlü Bildiriler

[KS1] - Innovative technologies in diagnostics and treatment of orthopedic and trauma patients

Prof. Nurlan Batpenov

Director-Research Institute of Traumatology and Orthopedics of the Ministry of Health of Kazakhstan

Injuries are one of the most important health and social problems not only in Kazakhstan but also in many other countries. More than 600 thousand people get various injuries annually, 22% of them are children, 78% - teenagers and adults. In our Republic the rate of injury was 4011.2 per 100 thousands population in 2008. In the overall structure of death the injuries compound 13%. More than 22 thousand people die from injuries annually, 83% of them are people of working age.

In our profession there were significant and qualitative changes for last 10-15 years. In treatment of fractures there are some methods such as closed biologic osteosynthesis with locking, mini-invasive operations with indirect reposition of the fracture and preservation of blood flow to the bone and surrounding tissues, total joint replacement by small access. The new system of fixation of long bone has been introduced in long bone fractures (LISS, MIPO, etc.). Since the date of foundation the Research Institute of Traumatology and Orthopaedics is actively introducing new technologies for diagnosis and treatment of injuries and diseases of the musculoskeletal system. Currently, we have highly skilled scientific and medical staff in our Institute. The Institute has 11 doctors and 31 candidates of medicine, 140 physicians, 50 of them are with the highest qualification category. Tertiary care is provided in 13 clinical departments with 400 beds. Now the Institute works on the third scientific-technical program since the date of foundation, the research results were noted in 1559 printed works, 26 monographs, textbooks, and statistical compilations, 33 guidelines, 131 patents were obtained. 10 doctoral and 31 PhD defenses were passed.

In the framework of scientific research programs the Institute staff has developed a number of their own devices, constructions and methods for treating the injuries of the musculoskeletal system, they are presented on the slides:

The doctoral dissertation council worked at the RITO till 2010 for specialty of traumatology and orthopedics. 29 clinical residents, and

10 graduate students, 1 postdoctoral student were trained for 10 years. Promising trends in introducing the new technologies in diagnosis and treatment of trauma and orthopedic patients are joint replacement and arthroscopic diagnosis and treatment of large joints, spinal fusion and transpedicular fixation in fractures of the spine, closed mini-invasive technologies nailing for fractures of limb bones, radiation diagnostic techniques, including MRI and osteodensitometry and immunological methods.

For recent years we have carried out more than two thousand hip joint replacements of cement and cementless fixation with good functional results. About 700 hip replacements were held at the Research Institute. New implants, such as MATI-MEDTECH, Implant Cast, Spiron, Stryker, Mattis, De Puy, revision implants Solution System, were introduced at departments of the RITO. Favorable outcomes were reported in 91%, instability of the components of the implant developed in 2.1% of cases. New model of hip endoprosthesis for cementless fixation «KAZ NIITO», N. Batpenov's model, has been developed. It was developed on basis of the implant "Arge Medisin Technik, Modell Minden V. Echtermeyer". Specific character of prosthesis design is the troughs on the outer surface of the femoral component, which eliminates excessive intraosseous pressure during the implantation of cementless stem of prosthesis. Currently, joint replacement and arthroscopic surgery of large joints is carried out in many regions of Kazakhstan. Nowadays there are seven regional centers for hip replacement in Kazakhstan. It should be noted, that it is not possible to hold the implementation of high-tech surgical procedures without proper training, a well-functioning service intensive care and anesthesiology, rehabilitation.

Spinal deformity and rib cage is one of the difficult and urgent problems in orthopedics. In examining the patients the x-ray densitometry, electromyography and the computer-tomographic examination with a special program is used to determine the torsion-rotational changes of the spine. For the correction of scoliosis the following plate and nail system endocorrectors are used: "Medilar" of Krasnoyarsk, Moss-Miami system (USA), endocorrector of Novosibirsk RITO, nail polysegmental endocorrector (Poland), Medtronik. Methods of internal and anterior transpedicular fixation, and spinal fusion by endofixatives and cages, implants made of porous nickel-titanium are introduced at

department of spinal surgery. In fractures of anterior and posterior columns hinge bows with self-adjusting compression are applied. In degenerative spine injuries on the basis of osteochondrosis and instability of the affected vertebral-disk segment, the internal transpedicular fixation was carried out.

For last decade endoscopic surgery has been widely disseminated. At the Research Institute in 2006 the department of arthroscopy and sport injuries was opened. More than 600 big joints arthroscopies are held annually. Cruciate ligament reconstruction, meniscal suture, mosaic chondroplastic, stabilization of the patella and shoulder joint are widely used. At the department the latest technology of the world leaders are used: Mitek Johnson & Johnson (USA), "Karl Storz", "Stryker".

In diaphyseal fractures of humerus, femur, tibia the technologies of closed locking intramedullary osteosynthesis is applied under IC control without reaming the channel. The department of microsurgery developed the methods of replantation of extremities at all levels, which is possible only by operating microscope "Carl Zeiss". Staff of the RITO regularly attends the training sessions and seminars held in Spain, Austria, Switzerland and Germany to develop high technologies. The Institute conducts training seminars and master classes 2-3 times a year for practical public health doctors with assistance of experts from leading scientific centers of Russia, Germany, Austria, Switzerland, Estonia. For this purpose the training center of graduate training opened at the Institute, which has the modern equipments and models for fixation, arthroscopy, joint replacement, the modern video system transmitting images from two operating rooms to the conference hall. The following modern imaging techniques are used in injuries of the musculoskeletal system: computer tomography, ultrasonography, angiography, densitometry.

In the office of biomechanics and myography an objective assessment of function of musculoskeletal system is conducted after the replacement of large joints, reconstructive operations aimed at restoring the lower extremities. At the Research Institute we have the laboratory of clinical immunology, where we study the markers of bone resorption and its formation in case of osteoporosis. Rehabilitation department is equipped with devices for the development of the joints of the upper and lower extremities in the postoperative period, the apparatus for shock wave therapy, hydro-kinesitherapy. Since 2008 the

rehabilitation of trauma patients is carried out on a unique system of diagnosis and treatment of large joints BIODER (USA) .

Laboratory of Experimental Traumatology and Orthopedics with vivarium for animals opened to conduct basic research in the field of traumatology and orthopedics. In addition to researching on bullet wounds, infected fractures, testing of new implants for osteosynthesis, the track was established in laboratory for the examination of civil non-lethal weapons. Tests on compression, stretching and bending are conducted through the test machine. Due to the lack of space for surgeries, the construction of a modern 4-level admission-diagnostic and surgical block was completed. It has chambers for observation of patients in the postoperative period. There are 9 sterile or "clean" operating rooms, resuscitation rooms with modern equipment. Today, at the Institute urgent problems of national traumatology and orthopedics continue to be solved. Highly skilled and cohesive team of the Institute, having considerable scientific and professional potential, is full of vigor and energy and inspiration to achieve new successes in solving the important tasks set by our State for the Research Institute of Traumatology and Orthopedics.

I want to conclude my speech by words of our President Nursultan Nazarbaev, "**We must do everything we can in order to people, the citizens of our multi-national states were convinced and saw that our cooperation and friendship is growing and developing, we still need each other in this modern cruel world**". Our friendly relations with overseas research centers are one of the most striking evidences of this.

[KS2] - Türkiyə və Azərbaycan ortopedlərinin 20 illik əlaqlərinin bu günə və gələcəyi

Əməkdar elm xadimi, Professor Vaqif Verdiyev

Azərbaycan Respublikası Səhiyyə Nazirliyi Elmi-Tədqiqat Travmatologiya və Ortopediya İnstitutu

ETTOİ-nun direktoru, Azərbaycanın baş Travmatoloqu

Azərbaycan ikinci dəfə müstəqilliyini əldə edəndən sonra başqa istiqamətlərdə olduğu kimi tibbdə də qardaş Türkiyə ilə əlaqələrini qurmağa başladı. Hipokrat şirkətinin başkanı Xeyru Dursunoğlu 1990-cı ildə Azərbaycana ilk səfərini etdikdən sonra ortopedik implantatları Bakıya gətirdi. 1992-ci ildə doktor Cəbrayıl Ələkbərov Türkiyəyə dəvət alaraq İlizarov metodunu İzmir, Ankara, İstanbul və digər şəhərlərdə tətbiq etməyə başladı, eyni kurslarında metpədu yayımında fəal iştirak etdi. TOTBİD-in dəvətilə kongreslərdə ilk

iştirakçılar Prof. Eldar Abasovu, və Prof. Vaqif Verdiyevi göstərmək olar. Azərbaycan Ortopedlər və Travmatoloqlar Cəmiyyətinin sədri V. Verdiyev TOTBİD-in başqanları Prof. Rıdvan Ege və Prof. Mumtaz Alpaslan ilə görüşərək qarşılıqlı əlaqələr qurmağa başladılar. Bu əlaqələrin yaranmasında Professorlar İlk Çətin, Mehmet Binnet, Sahab Batık və Hipokrat, Tıpsan, Tasarimmed tibbi şirkətləri göstərmək olar. Sonrakı illərdə mütəmadi olaraq Türkiyəyə və Azərbaycana qarşılıqlı səfərlər davam etdirildi. Azərbaycanlı ortopedlər A.Qəhrəmanov və A.Cəfərov Ankara və İstanbul universitetlərində 2 il çalışdılar. Çox önəmli proqramlardan gənc həkimlərin Türkiyədə 6 illik uzmanlıq hazırlığını qeyd etmək olar. Hal-hazırda 9 uzman Azərbaycana dönüb, 16 isə Türkiyədə təhsilini davam etdirir.

Elmi-Tədqiqat Travmatologiya və Ortopediya İnstitutunun dəvətilə Türkiyə Ortopedlər və Travmatoloqlar Birliyi Dərnəyi Artroplastika şöbəsinin aparıcı mütəxəssisləri ilə birgə 16-17 aprel 2007-ci il Bakı şəhərində "Böyük oynaqların protezləşdirilməsi" mövzusunda kurs-seminar keçirilmişdir. Kurs-seminarın məqsədi Azərbaycan travmatoloqlar-ortopedlərin endoprotezləşdirmənin (artroplastikanın) təməl prinsipləri və bu sahədə yeniliklər haqqında məlumat vermək idi. Tanınmış alimlər – başda Ankara universitetindən Prof. İlk Çətin, İstanbul Cərrahpaşa Universitetindən Prof. Necat Güney (artroplastika şöbəsinin başkanı), Prof. Fahri Erdoğan, Fizioterapevt doktor Yəldəz Analay, İzmir 9 Eylül Universitetindən Prof. Şükrü Arac xeyirxah missiya ilə Bakıya gəldilər. Türkiyə alimləri məruzələrlə çıxış etdilər. Praktiki köməyi 2 gün ərzində dörd xəstəyə endoprotezləşdirmə əməliyyatının təmənnəsiz icra etməsi oldu.

2007-ci il 25-26 may tarixində Elmi-Tədqiqat Travmatologiya və Ortopediya İnstitutu Azərbaycan Travmatoloqu və Ortopedlərin Assosiasiyası ilə birlikdə beynəlxalq nümayəndələrin iştirakı ilə öz 60 illiyinə həsr olunmuş konfrans keçirildi. Konfranslarda çoxluq təşkil edən Türkiyə alimləri 10-dan artıq maraqlı məruzələr etmişlər. Ege Universitetindən Prof. Dündar Sabah (İzmir), Erhan Sesli (İzmir), Adanadan Prof. Mahir Gülşən, Atilla Aydoğan, Cenk Özkan, Emre Toğrul ortopediyanın müasir problemlərini işıqlandırmışdır.

Azərbaycanın baş ortopedik mərkəzi olan Elmi-Tədqiqat Travmatologiya və Ortopediya İnstitutu Ege və Hacettepe Universitetlərlə elmi və praktiki əməkdaşlıq müqavilələri əsasında ümumi çalışmaları aparırlar: kemik kistalarının cərrahi müalicəsi və Ganz osteotomiyasına həsr olunan birgə 10-dan artıq yayımlar mövcuddur.

Türkiyəli ortopedlər həmçinin Azərbaycanın üzvl klinikalarını innovasion texnologiyalarını tətbiq edirlər. Beləliklə, iki qardaş xalqın qarşılıqlı əlaqələri pozitiv dinamika ilə inkişaf edir və bu tendensiyanı daha da artırmağa imkanlar vardır.

[KS3] - Göğüs kafesinin pectus excavatum deformasyonunun cərrahi tedavisi

Verdiyev. V.Q, Bayramov. A.Z

Bilimsel Araştırma Travmatoloji ve Ortopedi Enstitüsü, Azərbaycan, Bakı

Belirtilen defo rme ile AETTOİ-da çeşitli yıllarda 68 hasta üzerinde ameliyat yapılmıştır. Hastaların yaşı 2 -28 yaş oranları arasında deyişilmiş. Anamnezlerin dikkatli incelemesinden anlaşılmıştır ki, 25 (36,76%) kişi sık sık keskin solunum hastalıklardan, 17 (% 25) kişi fiziksel gerginlik sırasında tengeneslikden, 14 (20,5%) kişi kalp ritminin bozulmasından, 12 (17,64 %) kişi kalp nahiyesinde acılardan şikayet etmişlerdir. Deformasiyanın ağırlık derecesini belirlemek için tam klinik-rentgenoloji-fonksiyonel kontrollerden: klinik baxışta, torokometriya, laborator muayenelerden, enstrümantal muayenelerden (EKQ, ultrason, göğüs kafesinin röntgen teşhisi, spiroqrafiya-pnevmatografiya, bilgisayarlı tomografi muayene yöntemleri) kullanılmıştır. Operatif müdahale kombine endotraxeal narkoz vasıtasıyla yapılmıştır. Cerrahi müdahale sırasında 56 hastada optimum sandığımız dalğavari submamar ve 12 hastada boylama kesiden kullanılan edilmiştir. Torokoplastika sırasında göğüs kemiği qabırğa kompleksinin fiksasiyası için 38 hastada Kiev ortopedi Enstitüsü'nde teklif edilmiş metal cihaz ile netleme, 12 hastada T-şekilli titan levha, 10 hastada Boqdanov milleri aracılığıyla netlemeyi, 8 hastada bizim tarafımızdan önerilen çerçeveye benzer titan levhalarda (kayıt numarası a 2010 0261) kullanılmıştır. Bizim tarafımızdan önerilen tesisin avantajı şudur ki, rigid deformasyonlar, özellikle 15 yaşın üstündeki kişilerde korreksiyası sırasında büyük çökme alanlı ağır biçimli pectus excavatum deformasyonlar ostetomiya edilmiş 5 - 6 qabırğanın ve göğüs kemiğinin aynı zamanda netleme olunmasına sağlıyor .

Önerilen yöntemlerle üzerinde cerrahi işlem yapılan 43 (63,2%) kişiye torokoplastikanın 1 yıldan 3 yıla kadar uzak sonuçları belirlenmiştir. Ameliyatın uzak sonuçlarının öğrenilmesi hastaların şikayetleri, röntgen bilgileri ve kalp-akciğer sisteminin fonksiyonel müayinelerinin sonuçlarına göre yapılmıştır. Torokoplastika yapılan 29 (67,4%) hastada iyi, 12 (27,9%) hastada, qenaetbexşeden, 2 (4,6%) hastada qenaetbexşetmeyen sonuçlar alınmıştır.

İyi sonuçlar olan hastaların hiç bir şikayeti olmamış, göğüs tamıqla korreksiyona edilmiş, kardiorespirator sistemlerin fonksiyonel bozuklukları giderilmiştir. Qenaetbexşeden sonuçlar olan hastalarda korreksiyanın az belirgin seviyede kaybolması, hiperkolloid çapıqlar, perixondrit kutlanmıştır ve bunlar tekrarı etap tedavide giderilmiştir. Qenaetbexşet-

meyen sonuç olan 1 hastada plakanın çıkarılmasından sonra göğüs kafesinin ön duvarının çökmesi, korreksiyanın kaybolması görülmüştür.

[KS4] - Results of surgical treatment of unstable complicated fractures of thoracic and lumbar spine

B. M. Karibayev, Kh. Mukhametzhonov

118 of 131 patients with unstable complicated fractures of thoracic and lumbar spine were operated in the acute and early periods of injury. The analysis of the effectiveness of surgical operations was hold in treatment of unstable complicated fractures of thoracic and lumbar spine.

All patients underwent the clinical, neurological, radiological, neurophysiologic examinations. X-ray methods included: radiography of spine in the standard and indicated, oblique projections, venospondylography, ligamentography, myelography (MG), computed tomography (CT), magnetic resonance imaging(MRI) for separate patients, in the course of surgery the intraoperative MG with image projection on the screen of an electron-optical converter (EOC). ASIA / IMSOP scale was used to evaluate the neurological deficit. Stability assessment of spinal injuries was made according to Denis classification.

The anterior and combined surgeries are most adequate. Anterior interbody korporodez is pathogenetically substantiated method of treatment of comminuted frac-

tures of the thoracic and lumbar spine. Combined surgeries were held according to standard methods: the first stage included transpedicular fixation of the damaged segment of the spine in conjunction with a decompressive laminectomy. The second stage included korporodez of broken vertebra through anterior-lateral approach. Transpedicular fixation with reinforcement of the vertebral bodies was carried out in 32 (24.4%) patients. According to obtained results, the remodeling of the damaged vertebra in internal transpedicular fixation by reinforcement might be an alternative to anterior korporodez, which is more traumatic.

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Türkçe Konuşulan Konuk Ülkeler - Poster Bildirileri

[KP1] - The experience of using the cervical femoral component «Spiron» with total hip replacement

N. Batpenov, A. Belokobylov, V. Serikbayev, B. Malik, T. Turgumbayev

At the Research Institute of Traumatology and Orthopedics of Kazakhstan 9 patients underwent primary hip arthroplasty with femoral component «Spiron» of «K implant» firm. Patient age varied from 17 to 46 years (average age was 31). There were 8 men and 1 woman. The indications for surgery were: aseptic necrosis of the femoral head of III-IV degree, young age (lower than 50 years), normal index of body mass, good bone quality of proximal femur, «intact» of neck and normal anatomy of trochanteric region of femur.

«Spiron» femoral component has the shape of truncated cone, self-tapping threads, round section, bioactive coating (Bonit) and the cone under the head 12/14. In the course of operation, after subcapital osteotomy of hip the prosthesis acetabular component is set according to the «press-fit» principle. Then with the help of special instrument the canal forms in the femoral neck, thereafter implantation of femoral component is carried out by screwing it into the prepared canal. Subsequently, where it is necessary to provide revisory operation, surgeon is able to replace the unstable «Spiron» to standard cementless femoral component of proximal fixation making a kind of primary endoprosthesis replacement. Feature of the early postoperative period is necessity to limit the axial strain on the operated limb during 3 months. Results of surgical treatment were followed in the period from 4 weeks to 4 years after surgery and were estimated as good. No complications were observed.

[KP2] - The analysis of surgical treatment of development defects of the thorax

Tazhin K.B.

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The work purpose is to hold the retrospective analysis of results of treatment of children and adults with congenital deformations of the thorax at Scientific research Institute

of Traumatology and Orthopedy of Astana for 10 years.

Material and methods: 253 patients with various deformations of a thorax underwent surgery in orthopedics department. 156 (61,6%) patients of them with funneled deformation, 50 (19,7%) patients with carinatum deformations, 20 (7,9%) patients with hypoplastic deformation of a thorax, 15 (5,9%) patients with local deformations, 9 (3,5%) patients with deformations of costal arches and 4 (1,6%) patients with a Poland syndrome.

Generally there were cosmetic indications to surgical correction, but the functional disorders of cardiorespiratory system convinced us to make operation. Stabilization by a metal construction for 2 years was used at correction of funneled, hypoplastic deformation and at Poland syndrome. Surgical correction of carinatum deformation didn't require the use of metal construction. Operative treatment of local deformations of a thorax was reduced in a resection of pathologically deformed costal cartilages through small intercostal access. At deformation of costal arches the resection of VII-VIII ribs was carried out making 1 or 2 small cuts depending on unilateral or bilateral deformation.

The results: long term results were tracked from 1 year till 9 years. Deformation recidivation was noted in 3 patients operated for funneled deformation of a thorax, they were operated for the second time with a favorable outcome. In 3 cases metal construction fracture is revealed, however there was not any displacement or migration, it didn't disturb patients and it have been revealed during the planned X-ray, before its removal and it didn't influence on the end results. Patients operated for carinatum, local, hypoplastic deformation and deformation of costal arches were happy with cosmetic results. The long-term results of treatment of patients with Poland syndrome are satisfactory in orthopedic aspect, but these patients will undergo plastic correction of pectoral muscles and mammary gland.

[KP3] - Choice of treatment of patients with fractures of the thoracic spine depending on morphologic analysis of fractures

Batpenov N.D., Mukhametzanov Kh. M., Karibayev B.M., Bekarisov O.S.

Results of treatment of 186 patients (age 14 - 79 years) with fractures of the spine were analysed. The aim of the study was to determine the differential indications for various methods of treatment of fractures of the thoracic spine. Examination methods were clinical, radiation, neuro-physiological and statistical. The indications for various methods of treatment of fractures of the spine were determined depending on the type of damage of supporting columns, morphologic analysis of the fracture.

Conservative treatment was indicated in damage of one support column, height loss of the vertebral body to 20%, absence of spinal canal stenosis and kyphotic deformity to 150. In case of injury of three support columns: height loss of the vertebral body (50% or more), spinal canal stenosis (more than 40%), kyphotic deformity (more than 200) transpedicular fixation (TPF) and anterior spinal fusion (PS) is indicated; in case of height loss of vertebral body up to 40%, stenosis of the canal up to 30%, kyphotic deformity to 200 - TPF and plastic vertebral body (TAP). In case of the injury of two or three support columns, height loss of vertebral body up to 30%, spinal canal stenosis to 25%, kyphotic deformity more than 150 the isolated TPF was indicated. Anterior spondilodez should be used in the anterior and middle column injuries, height loss of the vertebral body to 40% spinal canal stenosis to 25% and kyphotic deformity of more than 200. Laminar fixation should be used in injuries of front and anterior columns, height loss of the body height up to 35%, kyphotic deformity of more than 150 and in case of no spinal canal stenosis.

Analysis of outcomes of treatment of fractures of the thoracic vertebrae has showed that good results were obtained in 80 (76.2%), satisfactory - in 17 (16.2%), unsatisfactory - in 8 (7.6%) patients.

[KP4] - Comparative results of surgical treatment of femoral neck fractures

K. Ospanov

Scientific Research Institute of Traumatology and Orthopedics, Astana

Results of the surgical treatment has been studied in 51 patients with fractures of the femoral neck and 75 patients with trochanteric fractures using the traditional methods of osteosynthesis. Primary group

consisted of 113 patients with femoral neck fractures, who underwent the osteosynthesis by nail-pin fixative, and 91 patients with trochanteric fractures underwent external osteosynthesis using new devices. 62.2% of patients were elderly age people with mean age of 69 years.

Triflange nail was used in 23 patients of control group. Osteosynthesis was carried out in a matter of urgency for 49% of patients of primary group. The osteosynthesis was carried out at 4-7 days after hospital admission in 39 patients (76.5%) of control group.

Duration of surgery in patients of primary group was 78+18,9 minutes, and in patients of control group - 113,8+20,9 minutes.

Active management of patients after hospital admission has significantly reduced the length of stay in hospital (from $22,3,3 \pm 14,9$ to $14,5 \pm 5,1$ days).

The results of treatment of patients with femoral neck fractures were studied from 1 to 7 years. Good and satisfactory results in control group were found in 75.8% of patients and unsatisfactory results were in 24.2% of patients. After osteosynthesis of femoral neck fractures using the nail-pin fixative the good and satisfactory results were achieved in 94.3% of cases.

Bakycharov fixative was applied in 12 patients (9.6%) of control group with trochanteric fractures, triflange nail with diaphyseal plate - in 5 patients (4%), angled plate at 130 degrees - in 4 patients (3.2%), dynamic hip screw (DHS) - in 54 patients (43.2%). Application of the new fixatives for osteosynthesis of trochanteric fractures has allowed to achieve good and satisfactory results in 94% of patients and 76.5% in the control group, and the complication rate decreased from 20% to 8%.

[KP5] - Application of locking intramedullary osteosynthesis of long bone fractures

Batpenov N.D., Ospanov K.T.,
Dosmailov B.S.

Scientific-research institute of Traumatology and Orthopedics, the Republic of Kazakhstan

According to the literature, fractures of long tubular bones of the extremities with multiple and multisystem trauma make 8, 0 % -11, 0% of the cases of all types of fractures. Generally accepted condition for fracture union is to preserve the vascularization of the bone fragments, which can be achieved only with minimally invasive technology. Modern prospect development of internal osteosynthesis is to minimize the surgical approach using closed technologies of osteosynthesis.

Research objective: To improve treatment outcomes of patients with fractures of long

bones with isolated and multiple trauma, through the use of locking intramedullary osteosynthesis.

Materials and methods: The results of treatment of 90 patients with fractures of long bones with isolated and multiple trauma in age from 16 to 90 years were analyzed. For osteosynthesis intramedullary rods of the firm "ChM" (Poland). For 18 patients with fractures of the humerus bones reconstructive cannulated rods for shoulder (UHN) and for 28 patients with fractures of the tibia bones reconstructive cannulated tibial rods (UTN) were used. For 44 patients with fractures of the femoral bone blocking intramedullary osteosynthesis was used. For 16 of them - proximal femoral rod (PFN) was used and for 28 - reconstructive (universal - UFN) cannulated femoral rod was used (for 21 patients by integrated way, for 7 by retrograded way). Operations were performed under epidural anesthesia, or nerve block anesthesia using the C-arch.

Results: Treatment evaluation was carried out in accordance with a standardized assessment of outcomes of fractures of musculoskeletal system and their implications, proposed by S.P. Mironov, E.R.Matiss and V.V. Trotsenko (2008). The results of treatment were studied in 72 patients. Since different anatomical and functional results were obtained in 33.4% of cases, good - 47.2%, satisfactory - 13.9%, unsatisfactory - 5.5%.

Conclusions: The use of blocking intramedullary nailing for fractures of long bones make it possible to achieve stable fixation of bones fragments from the minimum access. It creates conditions for the early development of movements in adjacent joints, the load on the operated limb and as a consequence is an early return to normal life.

[KP6] - Surgical treatment of idiopathic scoliosis in research institute of traumatology and orthopedics of the republic of Kazakhstan

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In the scientific world there is an ongoing debate about the timing, indications and methods of surgical treatment of scoliotic deformities. Controversial questions consists indications for the use of plates and nail endocorrectors, front mobilizing operations and galotraction.

Objective of research is to define the indications of progressive form of scoliosis for surgical treatment.

Methods: The research is based on surgical treatment of 290 patients with idiopathic

scoliosis in the Research Institute of TO from 2001 till 2010. Analyzed material is the data results of surgical correction of scoliosis by "Medilar" plate endocorrector (Russia) - 134 patients, and correction of scoliotic spinal deformities by "Moss Miami" nail endocorrector (DePuy, the USA) - 39 patients, nail endocorrector ChM (Poland) - 60 patients and Medtronic end corrector - 57 patients. Patients (age 16-28 years) underwent anterior or posterior spinal fusion simultaneously with the dorsal correction of scoliosis for indications produced at the.

Conclusion: Medilar duo plate endocorrector (Russia) and Moss - Miami nail endocorrectors (DePuy), Medtronic, ChM (Polland) could be used at the scoliosis of 3rd degree with the same success. Patients with incomplete spinal growth in case of rapidly progressive scoliosis are recommended to use the stage correction at application of nail endocorrector. "Medilar" duo plate endocorrector provides an opportunity to carry out surgical treatment of scoliosis in children and adolescents without additional correction. Constructive feature of "Medilar" duo plate endocorrector (free movement of plates in the support block) does not constrain the growth of the spine after correction of scoliosis. The effective functioning of duo plate endocorrector in case of growing spine does not lead to loss of correction of scoliosis in long-term after surgery. It is advisable to use the nail endocorrector in case of scoliosis of 4th degree and rude scoliotic deformities (over 90°). Binail endocorrector are preferable in scoliosis of 3rd degree at applying the nail endocorrector system (Moss-Miami, Medtronic, ChM), and distraction options of endocorrectors, which allows to carry out stage correction of scoliosis in scoliosis of 4 degree and rude skoliotic deformation. Binail endocorrector system by McCarthy method is the most reliable option of distraction nail system of endocorrectors in patients with incomplete spinal growth.

[KP7] - Surgical treatment of fractures of lower and thoracic vertebrae by transpedicular fixation method

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The research objective is to study the results of surgical treatment of thoracolumbar spine fractures using the modern stabilizing system of transpedicular fixation.

Materials and methods: 42 patients (age 20-58 years) with injuries of thoracolumbar vertebrae underwent surgery using the TPF at vertebra surgery department of RITO from

2008 till 2010. There were 30 men and 12 women. The fractures of lower thoracic vertebrae are noted in 14 patients, multiple fractures in 5 patients, lumbar spine fractures in 23. Diagnostic examination included radiography of spine, myelography, computerized tomography and magnetic resonance imaging. One-stage operation was carried out in 27 patients, two-stage operation (TPF and interbody fusion) was carried out in 15 patients.

Results: Analysis of short and long term results is carried out taking into account clinical and roengenologic outcomes. Good results were noted in 32 patients, satisfactory in 3 patients. Thus, transpedicular system of fixation is universal, is based on fixation of 3 support columns, could be used in all types of injury, and its biomechanic parameters of stabilisation leave behind all other systems.

[KP8] - Innovative technologies in treatment of hand bone fractures

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Treatment of fractures of fingers and their after-effects is a difficult task in traumatology. The use of different methods of operative and conservative treatments does not always give the desired result. Incorrect union or nonunion of fractures are the most frequent complications after injuries of fingers, the development of contractures.

The aim of the study is to improve results of treatment of patients with fractures of the hand bones and disorders of the hand joints in development of persistent contractures using innovative methods of treatment.

Materials and methods. At the department of microsurgery and hand injuries of the Research Institute of Traumatology and Orthopaedics the planned program of development and introduction of new surgical techniques has been carried out in treating this disease with a complex of rehabilitation treatment. Osteosynthesis of fractures of fingers was implemented using microplates. Total hand joint replacement is carried out in development of persistent contractures of fingers with dysfunction of operations using ceramic implantats.

Results. In the postoperative period 87.5% of patients had functional recovery of the joints, which was estimated in terms of motion - flexion and extension of fingers. Postoperative complications were not observed. Osteosynthesis allows to avoid prolonged immobilization of hand and is more cosmetic treatment.

Conclusions: The use of osteosynthesis by microplates and total hand joint replacement in patients with various types of fractures and disorders of joints is an innovative trend in treatment of this disease. The use of these treatments could restore joint function and restore the ability to work.

[KP9] - Results of application of a femoral component of a total prosthesis of a hip joint of model of KAZ Traumatology and Orthopedy Scientific Research Institute

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Objective: Analysis of the results of surgical treatment of hip joint pathology with the use of cementless fixation of implants, "KAZ TOSRI."

Materials and methods: Tromboembolic episodes meet often, proceeding asymptotically at hip joint prosthetics. These complications are often associated with an increase in intramedullary pressure. Taking into account the above-stated we develop and introduce clinical practice a femoral component of an endoprosthesis of a hip joint for cementless bracings «KAZ TORSI» (the Preliminary patent No: 20179). The leg of an endoprosthesis is developed for is proximal-intermediate bracing on the basis of an endoprosthesis «K-implant, Model V. Echtermeyer». The proximal part of a leg has the sphenoidal form with longitudinal «rigidity ribs» with the structured surface that provides the best osteointegration and rotatory stability. Design feature is the presence of decompression sulcus on the outer edge of the legs. The analysis of the results of treatment of 82 patients in the department offices and replacement TORSI orthopedics Regional Centre of Traumatology and Orthopedics them. Professor H.Zh.Makazhanova.

Results and discussion: Patients at the age from 20 till 59 years, middle age – 51 year are operated. On a nosology distribution was the following: consequences of traumas – 9 patients, deforming coxarthrosis – 18, dysplastic coxarthrosis - 31, aseptic necrosis of a head of a femur - 14, secondary coxarthrosis (postinfectious, rheumatoid) – 10. A bilateral lesion at – 31 patients, unilateral at – 51. Under the social status distribution was the following: invalids – 38 patients (from them II group – 8, III – 9), working – 10, not working – 26, pensioners – 8, students – weren't. In 15 cases the osteal autoplasty of an acetabular hollow was applied. At all operated patients of a wound have begun to live without complications. In the postoperative

period of thromboembolisms or complications from pulmonary system it was not observed. The nearest results are regarded as satisfactory. Given it is successfully used in clinical practice, there is an experience of application for 82 patients with positive nearest clinical results.

[KP10] - Minimally invasive osteosynthesis of injuries of the pelvis

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Damage of the pelvic is one of the most pressing problems in traumatology. Damage of the pelvic ring is from 3% to 10% of all fractures of bones.

Goal - improving the methods of surgical treatment of injuries of the pelvis.

Materials and methods. At RITO from 2009 to 2010 surgery treatment in 9 patients with injuries of the pelvis using minimally invasive technology. Males was 7, women - 2. The patients' age was from 19 to 52 years (average age 30.5 years). 8 patients received injuries in a road traffic accident, 1 patient was injured in a fall from a height. In this paper, we used the classification of AO-Tile. Damage Type B encountered in 7 cases, type C - 2 cases.

Results and discussion. Closed osteosynthesis fracture pubic bone cortical 4.5 mm screw is made in 13 cases: 4 patients with both sides, in 5 - to one side. Percutaneous cannulated fixation spongios screw fractures sacrum performed in 6 cases and 3 cases - the gap of the sacroiliac joint. Surgery was performed 2-5 days after injury. Intraoperative image intensifier was used to line, inlet and outlet of the pelvis projections. Complications were not postoperatively. Results of treatment were followed for 12 months in all patients. In assessing the results of treatment on a scale of S.A. Majeed. Excellent results obtained in all cases.

Conclusions. Minimally invasive osteosynthesis of injuries of the pelvis allows stable fixing fragments, and the blood loss during surgery is absent. Postoperatively, early onset of rehabilitation can get excellent results.

[KP11] - Remodeling and reinforcement of vertebrae in fresh fractures of thoracic and lumbar spine in internal transpedicular fixation

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The aim of the study was to analyse the results of remodeling and reinforcement of vertebral fractures in fresh thoracic and lumbar spine in internal transpedicular fixation.

Materials and methods. 100 patients underwent operation using our developed tools and method of remodeling and reinforcement of damaged vertebra. There were 65 men, 35 women (average age of victims was 35 years). Home accident trauma was noted in 53, industrial injury in 25, road accident injury in 22 patients.

Spine radiography in two projections and computer tomography was hold in all patients, myelography in 53, ligamentography in 55, ultrasonography in 33, magnetic resonance imaging in 5. Unstable fractures were noted in all patients, lumbar - in 62, thoracic - in 26. Fractures of two parts of the spine were noted in 12 patients. Complicated fractures of the spine were observed in 35 patients.

Patients were divided into groups according to the AO classification, neurological disorders according to H.Frankel. Long-term results of treatment were evaluated according to F. Denis scale. The method of operation of remodeling and reinforcement of damaged vertebral bodies in fresh fractures of the thoracic and lumbar spine was described earlier, and there is innovative patent of the Repub-

lic of Kazakhstan and the patent for the invention of the Russian Federation.

Results and discussion. Remodeling and reinforcement of the body of damaged vertebra was indicated for patients with fractures of type A2, A3, B2, and some with fractures of type C, in spinal canal stenosis to 30%, decrease in vertebral body height up to 40% and kyphotic deformity to 200. Further decompression of the spinal canal formations is carried out according to indications and data of intraoperative myelography.

Long-term results of treatment were good in 80 patients, satisfactory in 17 and unsatisfactory in 3 patients.

[KP12] - Reparative regeneration of bone tissue of proximal humerus in osteosynthesis of fractures by various constructions in the experiment

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Improvement of methods of osteosynthesis of humerus fractures determines the necessity in pilot studies to evaluate the activity of reparative osteogenesis when using different methods of bone fragment fixation. Clinical

and laboratory studies were carried out in order to study the reparative regeneration processes of bone fragments of the proximal humerus at applying the well-known fixatives and fittings we have developed in clinic. Experiments were conducted on 16 dogs under the age of 5 years, dogs were divided into experimental and control groups (6 animals in each group). The construction developed in the clinic (device for bone osteosynthesis, copyright certificate No. 42528 of the RK) was used to fix the fracture model for the animals of experimental group, T or L-shaped plate - for animals of the control group. At the end of experiments animals were not out of experiment, euthanasia was not used. During the experiment at 10, 20, 30 days after surgery all animals were made roentgenography of humerus in 2 projections, as well as the histological studies of fragments of bone fragments with bone callus were carried out. The results of radiological and morphological studies has shown that the use of the device for osteosynthesis of fractures models of the proximal humerus in experiment with dogs, developed in the clinic, provides stable osteosynthesis, as well as the minimal pressure on the bone tissue, which in turn it significantly improves the trophic, blood circulation in the area of the fracture, thus creating more favorable conditions for reparative regeneration.

