

Global Summit on **NEPHROLOGY, UROLOGY AND KIDNEY TRANSPLANTATION**

January 21, 2022 | Webinar

Anca Vasculitis**Kresimir Galesic***University of Zagreb, Croatia*

Antineutrophil cytoplasmic autoantibodies (ANCA) are associated with a group of necrotizing small vessel vasculitis that have a paucity of vascular deposition of immunoglobulin and complement. Two major autoantigens for ANCA are myeloperoxidase (MPO) and proteinase 3 (PR3), which are proteins in the primary granules of neutrophils. According to Chapel Hill classification, the group of systemic small vessel vasculitis associated with ANCA include microscopic polyangiitis (MPA), Wegener's granulomatosis (WG), and Churg–Strauss syndrome. Pathogenesis of ANCA-associated vasculitis ANCA directed to proteinase 3 (PR3-ANCA) or myeloperoxidase (MPO-ANCA) are strongly associated with the small blood vessels. The kidney is the most affected organ in ANCA-associated vasculitis, and patient outcomes are largely determined by the severity of renal disease at diagnosis and by its response to treatment. The manifestations of ANCA disease can be limited to the kidney alone, or may involve upper respiratory tract, the lungs, the skin, or several other organs in various combinations. The treatment of renal vasculitis involves the use of high dose glucocorticoids in combination with cyclophosphamide to induce remission of disease. The duration of this induction therapy is 3-6 months. In the presence of kidney failure, plasma exchange (plasmapheresis) is often used in addition to pharmacological treatment. Once remission is achieved, treatment is scaled back to maintenance therapy with lower doses of glucocorticoids, while cyclophosphamide is replaced by a less toxic immunosuppressant, such as azathioprine.

Biography

Kresimir Galesic completed his medical education at University of Zagreb, School of Medicine in 1981. He finished his residency in Internal Medicine in 1990 and in Nephrology 1993. He was trained at Tufts University, Boston, USA (1993 – 1995) and by Professor Claudio Ponticelli at Ospedale Maggiore, Milan, Italy. He is the Head of Department of Nephrology, Dubrava University Hospital, Zagreb and the full professor of Internal Medicine at University of Zagreb, School of Medicine.

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The use of stent-graft revascularisation for cephalic arch arteriovenous fistula stenoses**Alexandra O Stathis***Prince of Wales Hospital, Australia*

Background: Patency threatening stenosis of the cephalic arch vein junction is a common problem in brachiocephalic arteriovenous fistula for hemodialysis. Endovascular solutions may be associated with early patency failure. Stent grafts may offer a patency benefit over conventional solutions and protect from intra procedural complications.

Methods: A prospective, multicentre analysis of consecutive patients with cephalic arch vein stenoses and dysfunctional hemodialysis access who received treatment with a stent graft (Viabahn, W.L. Gore, Flagstaff, US) was conducted over 2.5 years. Outcome was assessed intraoperatively, then at 1, 3 and 6 months, using duplex ultrasound and clinical parameters.

Results: 15 patients (mean age 66 years; range 37 to 94) had stent grafts successfully deployed. Of the 12 patients available for follow up at 6 months, primary patency was observed in 9 patients (75% primary patency) with 100% assisted primary patency. Beyond 6 months, restenosis developed in 3 patients requiring angioplasty with a drug eluting balloon or extension of the stent. No AVFs were lost or abandoned due to recurrent failure during the follow up period. Kaplan Meier Estimates demonstrated 6 and 12 month patency rates of 78.6% at 50.5% respectively.

Conclusion: The Viabahn stent graft is a safe treatment option in cephalic vein arch stenosis with acceptable short-term efficacy. Further investigations comparing Viabahn to alternative treatment options are required to clearly define its role in the treatment of this difficult clinical syndrome.

Biography

Alexandra Stathis graduated from Notre Dame University, Australia in 2015. Since that time, She has a varied experience across metropolitan and rural Australia and currently working as the Transplant Registrar at Prince of Wales Hospital in Sydney, where she enjoys caring for renal transplant and haemodialysis patients.

Management of envenomation induced AKI with intermittent haemodialysis in a dog**Faswal Pichan, Surroj and Sherin Sha***Cochin Pet Hospital, Nigeria*

A fourteen month old Labrador dog (BRUNO) was presented to pet hospital with a recent history of viper envenomation. Dog was vocalising and restless. On the day of presentation, serum creatinine and blood nitrogen (BUN) values were 3.7mg/dL and 89.1 mg/dL respectively. The serum creatinine and blood urea nitrogen values elevated within two days to 6.7mg/dL and 138.6mg/dL respectively. The dog become oliguria. The clinical signs and laboratory values were consistent with acute kidney injury. Intermittent haemodialysis (IHD) was carried out as dog was refractory to medical management. Post IHD creatinine and BUN values were 6.7 mg/dL and BUN Values 101 mg/dL, respectively. Serum creatinine and BUN value increased to 7 mg/dL and 130 mg/dL, the next day after IHD. Second session of IHD reduced serum creatinine and BUN values to 6 mg/dL and 97.8 mg/dL. Dog continued to be dull, anorexic with oliguria. Third session of IHD helped in reduction of serum creatinine and Oliguria resolved. The dog resumed his appetite and was clinically stable. Dog was observed for next 24 hours and discharged. On review after three days, dog exhibited considerable improvement; creatinine and BUN value were 3.1 mg/dL and 54.4 mg/dL, respectively. Ten days later follow up revealed that creatinine and BUN value stabilised at 1 mg/dL and 24 mg/dL. Dog showed allow and steady recovery from acute kidney injury over a period of 20 days.

Viper envenomation induces kidney injury (Hrovat et al 2013) Intermittent haemodialysis is a renal replacement therapy which is used to alleviate life threatening Azotaemia electrolyte and acid-base imbalances and control intravascular volume (Cowgill) and Elliott, 2000). This article describes a case viper envenomation induced acute kidney injury in a dog, which was successfully managed with three sessions of intermittent haemodialysis.

Biography

Faswal Pichan has completed diploma in dialysis technology in PIMS, Kerala and he has done his B.Sc. in renal science in Singania University and M.Sc. in Capital University, Jharkhand, India. Since then, he is working as a dialysis technologist from past 7 years.

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Case scenarios of pediatric nephrology**Riham Mohamed Arnous***Mansoura University, Egypt*

Covid-19 and acute kidney injury in hospital: summary of NICE guidelines Acute kidney injury (AKI), a sudden reduction in kidney function, is seen in some people with covid-19 infection. A subset of patients develop severe AKI and require renal replacement therapy (RRT). As in many settings, the development of AKI is associated with an increased risk of mortality.

Although our understanding is incomplete, a picture is emerging from case reports and autopsy series of covid-19 specific causes of AKI. Intrinsic renal pathology including thrombotic vascular processes, viral mediated tubular cell injury, and glomerulonephritis have been reported, as well as AKI resulting from extrinsic factors such as fluid depletion, multi-organ failure, and rhabdomyolysis

Anecdotal reports have emerged of proximal tubular injury with Fanconi syndrome that manifests as hypokalaemia, hypo phosphataemia, normal anion gap metabolic acidosis, and hypovolaemia from salt wasting. Importantly, AKI can occur at all stages of covid-19 infection, so clinical vigilance and consideration of risk factors for AKI alongside early detection and diagnosis are essential components of general supportive care.

Biography

Riham has completed her PhD at the age of 25 years at Mansoura University then worked as visitor resident at MUCH for 2 years. Then completed master degree of pediatrics from Al Azhar University, and worked there at Al Azhar University hospital as a Pediatric specialist, then completed Pediatric nephrology diploma from Cambridge University, and worked as Pediatric nephrology Specialist at MUCH, and Currently she is the head of pediatric department at Alsoliman specialized hospital.

Assessment of the nutritional status of the hemodialysis patients by anthropometric measure

Sajid Sultan

Frontier Medical College, Pakistan

This study assessed the nutritional status of end-stage renal disease (ESRD) patients on maintenance hemodialysis (MHD) by utilizing bedside anthropometric measurements.

This prospective cross-sectional study was done from November 2020 till April 2021 on ESRD patients three times a week MHD at our centre. Anthropometric measurements including body mass index (BMI), triceps skinfold thickness (TSFT), mid-arm circumference (MAC), calf circumference (CC) and handgrip strength (HGS) were measured mid-arm muscle circumference (MAMC) was calculated, and nutritional status was determined.

Out of 195 patients recruited in our study, 127 (65.1%) were male. The mean age was 51.2 ± 14.8 years with a minimum of 20 and a maximum of 90 years, while the mean duration of HD was 4.6 ± 4.1 years. The majority of our patients had TSFT of 60 % to 90% 93 (47.7%), indicating mild to moderate depletion of fat stores and MAMC of >90 % 128 (65.6%), indicating good protein stores. Among all anthropometric measures, BMI was strongly associated with age ($p < 0.001$), while gender and duration of MHD were associated with TSFT ($p < 0.001$).

Anthropometric measurements are easy and inexpensive bedside methods for assessing the nutritional status of ESRD patients on MHD. Our study concluded that our MHD patients have overall good nutritional status, though our young patients have low BMI and old have obesity. Male patients have weaker HGS. With the increased number of years on MHD, malnutrition increases. Our study will help to treat physicians and nutritionists for proper nutritional planning and implementation to prevent malnutrition.

Biography

Sajid Sultan has obtained his medical graduation from Ayub Medical College Abbottabad Pakistan and has achieved Internal medicine and Nephrology Experience under College of Physicians and Surgeons Pakistan at The Kidney Centre Postgraduate Institute Karachi. He is currently working as Renal registrar in Faculty of Medicine at frontier Medical College Abbottabad Pakistan. He has three publications in Nephrology.

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Serum cystatin c as a determinant of glomerular filtration rate in patients with chronic kidney disease**Alaoui Mdarhri Hiba***Mohammed VI University of Health Sciences, Morocco*

Chronic Kidney Disease (CKD) is a major public health problem, it can occur at any age and has specific features whose management must take into account not only the disorders caused by the pathology, but also the many extra renal manifestations that influence the vital prognosis of patients. Therefore, international expert committees recommend that the estimation of Glomerular Filtration Rate (GFR), which is the basis for diagnosis, treatment, follow-up and prognosis of CKD, should be as accurate as possible to ensure proper management of patients. However, serum creatinine is not a reliable marker since it varies with age, height, weight, and changes in muscle mass; which has motivated the search for new plasma markers, notably blood Cystatin C (CysC). Indeed, CysC is an endogenous low molecular weight marker produced by all nucleated cells of the body independently of the age, sex or diet, and whose positive charge allows it to be freely filtered by the glomerulus. Thus, its concentration depends only on the GFR. CysC assay uses nephelometric or turbidimetric methods whose automation allows simple, rapid, repeated, reproducible and relatively inexpensive assays. This marker represents a high diagnostic sensitivity and a high negative predictive value as well as fewer pre-analytical and analytical interferences. Several studies have confirmed and demonstrated the superiority of CysC over serum creatinine when looking for early signs of glomerular renal failure. In conclusion, international recommendations suggest using a GFR estimate based on CysC as a confirmatory test given that serum creatinine is less reliable.

Biography

Alaou Mdarhri Hiba has obtained her doctorate in General Medicine from the Faculty of Medicine and of the Hassan II University of Casablanca, Morocco, and is currently doing her residency in Medical Biology at the Faculty of Medicine of the Mohammed VI University of Health Sciences in Casablanca.

Outcomes of arteriovenous fistula creation in patients undergoing hemodialysis: An Indian experience

Aneesh S.

BYL Nair Hospital, India

Creating an arteriovenous fistula (AVF) to provide a patent and long-term vascular access (VA) for hemodialysis (HD) still remains a challenge. A methodical approach to choosing the appropriate HD access in accordance with patients' end-stage kidney disease (ESKD) life plan will help them achieve their goals safely. This study summarizes the impact of various factors on the AVF outcomes in an Indian population as well as the necessary considerations before choosing the site of AVF creation. This study involved a single-center, retrospective evaluation of all patients who had undergone arteriovenous (AV) access creation for maintenance HD from October 2018 to August 2019 at a tertiary center in India.

Results: In our study of 216 cases, the average age at presentation was 43.9 years and the difference in age between the successful and unsuccessful group was not significant. The successful outcomes in males were significantly higher than those in females ($p=0.005$). The mean venous diameter in the successful group was significantly larger than that in the unsuccessful group. The distal arterial and vein diameter was higher in both males and females of the laborer group compared to the clerical group; however, the outcomes were comparable. The overall complication rate was 22.22%. We had primary patency rates of 83% at the end of one year with a primary failure rate of 8.80%.

Conclusion: Vein diameter was the most important predictive factor for a successful outcome in our study. Factors like age and life expectancy, gender, comorbidities, occupation, and type of anastomosis may not be individually predictive of outcomes but need to be considered before choosing the appropriate site of access creation according to the life plan of the patient. This will reduce morbidity associated with an additional procedure and facilitate the initiation of HD as early as possible. Occupation can be considered as a surrogate for preoperative forearm exercises with the increased caliber of vessels found in people performing heavy/manual labor favoring a more distal AVF creation.

Biography

Aneesh S. has completed his Master's in Surgery (M.S.) from the prestigious institute of JIPMER. He then finished his three years of training in the field of Plastic and Reconstructive Surgery and is currently working as a consultant at TNMC and BYL Nair Hospital. He has a keen interest in research and has published numerous papers in reputed journals. His field of interest includes microvascular and reconstructive surgery, breast reconstruction, and facial rejuvenation procedures.

Laparoscopic mitrofanoff for valve bladder

N Mallikarjuna Reddy

Citizens Hospital, India

The Mitrofanoff principle is based on implantation of a supple tube within a submucosal tunnel with firm muscular backing. Reservoir pressure during filling coapts the catheterizable channel to prevent leakage and provide continence. The potential benefits of the laparoscopic or Robotic approach include decreased postoperative pain, shorter hospital stay and improved cosmesis.

Procedure: Appendix as a supple tube is dissected with its pedicle. The Mesoappendix is dissected and the blood supply is preserved. It is anastomosed to the bladder anteriorly or posteriorly. The exit is brought out in the right iliac fossa or at the umbilicus. This allows the the child to catheterise painlessly and without shame.

Indications: All children on CSIC from childhood at school going age, Neurogenic bladder in older children, Valve bladder, High Grade VUR with renal and bladder dysfunction. Materials We evaluated our results in 84 patients in over the last 3 years by minimal invasive technique.

Conclusion: Minimal invasive Mitrofanoff by laparoscopic and robotic methodology for painless catheterisation is the way forward.

Biography

Mallikarjuna Reddy did his under graduation from Kakatiya Medical College, India and proceeding to that he completed his M.S. in General Surgery. He is a Fellow of European Board of Urology, Uro-Oncology and Pediatric Urology. Back then, he used to be the national convener of Pediatric urology for the Urological society of India from year 2012 to 2014. He is faculty for the fellowship of postdoctoral Pediatric urology in India at KLES University at Belgaum. Currently, he is working as a Professor and Head of department of Narayana medical college, Nellore, India. drmmreddy@gmail.com

The complete evidence that Starling's law responsible for many errors and misconceptions on fluid therapy in shock is wrong: The correct replacement is the hydrodynamic phenomenon of the porous orifice (G) tube

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Introduction and objective: To report the hydrodynamic of a porous orifice (G) tube as replacement for the wrong Starling's law.

Material and methods: Hydrodynamics of the G tube, based on capillary ultra-structure, were studied. The effect of changing G tube orifice diameter, proximal pressure and distal pressure on the side pressure and chamber (C) pressure were evaluated. The physiological proof that the capillary works as G tube not Poiseuille's tube is provided.

Results: Hydrodynamics of the G tube showed that proximal, akin to arterial, pressure induces a negative side pressure gradient on the G tube wall, which is negative causing suction maximum near the inlet and turn positive near the exit causing filtration. This created the rapid, autonomous magnetic field like fluid circulation phenomenon between G and C. The physiological evidence on the hind limb of sheep proves that the capillary works as G tube.

Conclusion: Hydrodynamic of the G tube challenges the role attributed to arterial pressure as a filtration force in Starling's law. A literature review shows that oncotic pressure does not work, and the law has failed to explain the capillary-ISF transfer. A concept based on the new hydrodynamic phenomenon of the G tube is proposed to replace Starling's law. A rapid autonomous dynamic magnetic field-like G-C circulation occurs. Factors which initiate, regulate, and affect the G-C circulation, its physiological proof and relevance to clinical importance are given. Physiological evidence on capillary working as G tube not Poiseuille's tube is provided.

Biography

Ahmed Ghanem has 33 years long urological experience in hospitals in UK and overseas. He have excellent experience in performing competently and safely open surgical and endoscopic urological procedures for cancer, stones, congenital anomalies and trauma of the urological tract. He can do TRUS biopsy and Flexible cystoscopy well. He have done many audits and research work and reported 60 publications in International Medical, Surgical and Urological Journals. He made many conference presentation and given many teaching sessions to nurses and doctors.

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Volume Kinetic (VK) shocks or Volumetric Overload Shocks (VOS) in clinical practice**Ahmed N. Ghanem¹, Khalid A. Ghanem¹, Nisha Pindoria² and Salma A. Ghanem³**¹Mansoura University, United Kingdom²North Middlesex University Hospital, London³Royal London Hospital, London

Volume kinetic (VK) shocks are cardiovascular shocks induced by acute substantial volume changes of the cardiovascular system in either direction by decrease or increase. A decrease in cardiovascular volume induces the long established and well-known hypovolemic and haemorrhagic shocks. Cardiovascular shocks induced by volumetric overload (VO) have been recently reported. Volume kinetic (VK) shocks or Volumetric Overload Shocks (VOS) are common iatrogenic complication of fluid therapy in hospitals that is overlooked and underestimated. It may present in theatre as cardiopulmonary arrest or later with coma and acute respiratory distress syndrome (ARDS). VOS is 2 types: VOS1 and VOS2. VOS1 is induced by 3.5-5 L of sodium-free fluid and is characterized with dilution HN that has 2 nadirs and 2 paradoxes, is most dynamic and illusive and currently has a lifesaving therapy of 5%NaCl or 8.4%NaCo3. VOS2 may complicate VOS1 or occur de novo complicating sodium-based fluid therapy during resuscitation of shock, acutely ill patients, and prolonged surgery. It has no obvious serological markers or none. Between 3-10 L of sodium-based fluids induce VOS 2, and 12-14 L cause mortality. Many errors and misconceptions mislead physicians into giving too much fluid for resuscitation due to faulty rules on fluid therapy dictated by the wrong Starling's law. The correct replacement for this law is the hydrodynamic of the porous orifice (G) tube. These scientific discoveries should make the Medical World wake up and pay attention.

Biography

Ahmed Ghanem has 33 years long urological experience in hospitals in UK and overseas. He have excellent experience in performing competently and safely open surgical and endoscopic urological procedures for cancer, stones, congenital anomalies and trauma of the urological tract. He can do TRUS biopsy and Flexible cystoscopy well. He have done many audits and research work and reported 60 publications in International Medical, Surgical and Urological Journals. He made many conference presentation and given many teaching sessions to nurses and doctors.

Acid-base balance of renal venous blood with patients in secondary hypertension**Vladimir Voitovitch**9th City Hospital, Belarus

Background and Aim: Accessing the literature did not reveal any data regarding the state of Acid-Base Balance (ABB) in Renal Venous Blood (RVB). During study of differential diagnostic arterial hypertension, plasma renin activity and other renal hormones we simultaneously investigated ABB of RVB in patients with secondary hypertension. The aim of this study was to explore the level of renal ischemia in patients with different lesions of the kidney and renal artery accompanied with arterial hypertension by determination of ABB in RVB.

Methods: 44 patients with different kinds of renal artery (RAL) and small kidney lesions (SKL) and 18 with polycystic kidney disease (PKD) have been studied by measuring pO₂, SO₂%, pCO₂, pH, BE, BB, HCO₃, TCO₂ in abdominal aortas and RVB.

Results:Abdominal aortas-pO₂:97.7±3.9;SO₂:%:97.2±3.5;pCO₂:34.97±1.78RVB of RAL - pO₂:62.5±4.3;SO₂:%:90.1±1.8;pCO₂:35.11± 0.96RVB of RAL (opposite side) - pO₂:65.0±3.4;SO₂:%:91.2±0.95;pCO₂:34.95±0.72RVB of SKL - pO₂:70.4±4.9;SO₂:%:91.8±0.8;pCO₂:39.2±1.99RVB of SKL (opposite side) - pO₂:81.6±6.4;SO₂:%:95.0±1.3;pCO₂:34.95±0.72RVB of PKD (right side) - pO₂:57.9±2.8;SO₂:%:89.2±2.5;pCO₂:33.7 ±1.51RVB of PKD (left side) - pO₂:59.4±3.8;SO₂:%:90.2±1.9;pCO₂:32.63±1.71

Conclusions: The obtained results have shown that the essential data in ABB in RVB in patients with secondary hypertension is very stable and there is a statistically non-significant difference between lesion and opposite side RVB in RAL and SKL. Furthermore, only in patients with PKD are levels of pO₂ and pCO₂ in RVB statistically lower than other groups. The remaining data of ABB in patients with secondary hypertension is statistically no different to normal levels and confirms stable ABB in RVB even in patients with PKD.

Biography

Voitovitch Vladimir graduated Clinical ordination on Nephrology in Centre of Urology and Kidney Transplant action in Minsk under Academic Savchenko N. E.As, scientific worker defended dissertation "State of Pressor-Depresser system in patients with renal symptomatic hypertension". In 2008, he worked in Bergamo 6 months on Program ISN "Early diagnostic patients with Hypertension, Diabetes, and Renal diseases. He has published more than papers, and has participated in World Congress of Nephrology in San Francisco (2001), Toronto (2003), Rio de Janeiro, Hon Kong etc.

Dual role of kidneys in blood pressure regulation in patients with autosomal dominant polycystic kidney disease (ADPKD)

Vladimir Voitovitch

9th City Hospital, Belarus

Background and Aims: Hypertension is a common complication of ADPKD. A role of the renin-angiotensin system (RAS) has been proposed, but human studies have shown conflicting results in correlation between plasma renin activity and blood pressure in ADPKD. The aim of this study was to investigate the role of renin-angiotensin pressor and kallikrein-kinin-prostaglandins depressor systems in the development of hypertension in ADPKD.

Methods: 42 patients with ADPKD and hypertension aged 19-64 years old (mean age 39.9±2.7 years) were studied. Final diagnosis of ADPKD was based on decreased renal function signs, ultrasonography and CT. Renal angiography was performed in 16 patients in order to make a differential diagnosis of arterial hypertension to further determine pressor and depressor agent activity in renal venous blood (RVB). Renin activity, angiotensin I (ANGI) and prostaglandin (PGF2 α , PGE2) content were defined using radioimmune assays and the Hestrin method for kallikrein.

Results: Results in right and left renal veins (RRV/LRV). Renin activity (ng/ml/h)–RRV:5.88±0.41;LRV:5.86±0.50;control: 0.2,-2,7 ANGI content (ng/ml) RRV:3.67±0.04;LRV:3.51±0.33;control: 0.5 PGF2 α content (ng/ml) RRV:1.20±0.02;LRV:1.15±0.01 PGE2 content (ng/ml)–RRV:3.9±0.14;LRV:4.44±0.24 Kallikrein (mmol/l) RRV:5.22±1.02;LRV:6.77±1.2;control:4.14±0.18

Conclusions: Renin activity and ANG1 content in RVB are increased statistically identically on both sides specifying the activation of a pressor system. Normal PGF2 α content also confirms the activated RAS pressor corresponding to hypertension. Kallikrein concentration, but especially PGE2 content specifies the raised synthesis of PGE2 and preserved high activity of depressor agents in this group. Thus, the obtained results have shown the role of pressor-depressor agents in the pathogenesis of hypertension where the adequate synthesis of depressor agents can explain the mild course of hypertension in ADPKD.

Biography

Voitovitch Vladimir graduated Clinical ordination on Nephrology in Centre of Urology and Kidney Transplant action in Minsk under Academic Savchenko N. E. As scientific worker defended dissertation "State of Pressor-Depressor system in patients with renal symptomatic hypertension". In 2008, he worked in Bergamo 6 months on Program ISN "Early diagnostic patients with Hypertension, Diabetes, and Renal diseases. He has published more than 70 papers and participated in World Congress of Nephrology in San Francisco (2001), Toronto (2003), Rio de Janeiro, Hong Kong etc.