Welcome on the second day of this congress. Yesterday was a great success with 566 attendees and with a well attended keynote lecture and press conference. In this Friday edition, you will find some reports about it as well as some information on what will happen today. Enjoy your day, share your experience with your colleagues and keep on learning and networking...and don't forget the Clash of the Titans.

Prof. Marc Clarys (UZ Antwerp)

Hospital networking, start of a new organisation for care delivery?

**PERSPECTIVE FOR THE FUTURE IN BELGIUM.**

During the keynote session ‘Modern cardiology in the picture’ on Thursday, Dr. Marc Geboers (Zorgnet-Icurohospital, Brussels) gave a lecture about the new model for the organisation of health care which is currently being developed by the government.

It’s still a lot of theory but the new health care system will be implemented over the next years. Hospital networking is the future and will be imposed by the government.

The 3 key items are health organisation, hospital networks and the financial model. The organisation of networking is now the most in the picture, but also low variable care clusters and P4Q (pay for quality) are studied. Networking means collaboration between hospitals on different levels: academic, specialised and basic. In other words, health care in Belgium will be organised on a broader scale, in clinical networks of hospitals, also in the field of cardiology. The already existing collaboration between hospitals will be further organised and intensified. The objective is to improve the efficacy and to rationalise, which also automatically leads to cost saving. Not only the directors of the hospitals or the government are the decision makers, but also the medical specialists are part of the search for new forms of networking.

What is the consistency in all the ideas that are developed? Already consistent about clinical networking is the geographic description. The focus is on the vertical network of hospitals (the specialised care). The goal is 25 clinical hospital networks could cross the borders of the regions.

The government will double the capacity of clinical networks. In the future this will be organised per region (the metropolitan areas being an exception), for the middle cannot be excluded. There is no maximum number of hospitals (a hospital from a hospital cannot be there). The focus is on the vertical network, more or less consistent about clinical networks, organised and intensifying. There will be 25 clinical networks in Belgium covering 400,000-500,000 inhabitants per network. There will be no overlap between the networks, except for the metropolitan areas (Brussels, Antwerp, Ghent, Liège, Charleroi). A network must include at least 2 non-psychiatric hospitals, but there is no exclusion of hospitals (a hospital in the middle cannot be excluded). There is no maximum number of hospitals and in theory the networks could cross the borders of the regions.
Also consistent is that each hospital keeps its individual recognition, but the network is the cornerstone of this new type of organisation, this means that a hospital is only a hospital when it is part of a network. The participation of the individual hospital is therefore mandatory. In the first phase, only general university hospitals will be involved (no psychiatric hospitals but revalidation hospitals can participate).

Locoregional versus supraregional activities of care

The activities of care are also consistent and are divided into locoregional activities of care (care close to the patient, general and specialised) and supraregional activities of care with points of reference (collaborative network with a point of reference; mostly universities or for instance a highly specialised cardiac surgery centre). The locoregional networks have to work together with these points of reference.

What is already known is, that for instance, ‘care program A’ can be a treatment program for the patients of a certain hospital. The locoregional networks have to work together with these points of reference.

The network is dominant

It’s important to know that the network will play a dominant role. This means that the board of directors, the chief medical officer and the medical council is situated at the level of the network. They impose decisions on the hospitals of the network. So, the general agreement or the financial agreement with medical specialists, etc. will be at the level of the network.

Is there still need for concern?

There are still problematic issues concerning the governance, for example the relation Board-Doctors, the position of the medical council at the level of the network, the model of consensus, the advice function of the medical council and the representation of the doctors in the Board. Another aspect is the PAQ (pay for quality) that is coming up. Based on a score for a set of parameters, a budget will be allocated to hospitals. At this moment, the budget is very limited (6 million euro) and the first steps are taken (cardiology is not yet in this system).

Cardiology is not really involved in the first phase of the evaluation of quality of care. The priority cases are cardiology, materni ty, emergency service, S2, radiotherapy and low volume complex oncology surgery. An important issue is what is to be considered as a locoregional or a supraregional activity of care?

The Belgian Society of Cardiology is also convinced that the available means should be used efficiently. Hospital networks, or hospitals that work together in different fields can contribute to a more optimal and less expensive use of means. There are concerns about the financial consequences resulting from the organisation of hospital networks and the increased application of fixed fees for low variable pathologies. If these measures result in less budget, this could be an obstacle towards a modern cardiology and that is not what it’s meant for.

BELGIAN STUDY: Air pollution is associated with increased risk of myoccardial infarction!

During the press conference on Thursday, Prof Dr Jean-Francois Argacha (Cardiology, Universitary Hospital Brussels, BE) discussed the results of his study ‘Air pollution and ST-elevation myocardial infarction: A case-crossover study of the Belgian STEMI registry Study’ (1).

Nowadays, the World Health Organization (WHO) considers air pollution as one of the largest avoidable causes of mortality. Besides the pulmonary and carcinogenic effects of air pollution, exposure to air pollution has been associated with an increased risk of cardiovascular mortality.

The effects of air pollution on the risk of ST-elevation myocardial infarction (STEMI), in particular the role of gaseous air pollutants such as NO2 and O3 and the susceptibility of specific populations, are still under debate. The objective of this study was to investigate the effect of short-term exposure to air pollution on the risk of ST-segment elevation myocardial infarction (STEMI).

The networking aims also at the concentration on care at a supraregional level. Think about care programs B1-B2 (anesthesia, dilatation, stenting care program B3 (cardiovascular interventions)). The discussions are ongoing.

There is already more agreement for the organisation on the supraregional level for electrophysiology or arrhythmias (care program E), or congenital pathology (care program C) and certainly for heart transplantations.

It speaks for itself that a lot of discussing/negotiating is needed to come to a consensus about these delicate matters. Dr Geboers: ‘Centralisation yes, but alternative approaches should be possible.’

The participation of the individual hospital (for instance, ‘care program A’) which involves the basic care of the cardiac patients and the more technical care (care program B3) (pacemaker therapy) can be deployed in most hospitals of a network. A crucial question is if technical interventions should be done in every hospital. The agreement is that the care should be and stay close to the patient (revalidation, older patients).

A total of 11,428 STEMI patients were included in the study. Each 10µg/m3 increase in PM10, PM2.5 and NO2 was associated with an increased odds ratio (OR) of STEMI of 1.026 (CI 1.005-1.048), 1.028 (CI 1.003-1.054) and 1.051 (CI 1.019-1.084), respectively. The researchers found that 10 µg/m³ increases in ambient PM2.5 concentrations were associated with a 2.8% increase in STEMI while 10 µg/m³ rises in NO2 were associated with a 5.1% increased risk (Figure 1) (2).

Incremental increase of STEMI

A subgroup analysis according to age showed that patients aged 75 years and above developed more STEMI in relation to PM10 exposure, while those aged 54 years and under were more susceptible to NO2 exposure. A subgroup analysis according to age showed that patients aged 75 years and above developed more STEMI in relation to PM10 exposure, while those aged 54 years and under were more susceptible to NO2 exposure.

In Figure 2 you can see that there were 11,428 hospitalizations for STEMI. The relationship between pollutants and STEMI was assessed using a case-crossover design, performed by the biostatistics department of the Universiteit Libre de Brussel (ULB), Brussels, Belgium.

Data on PM10, PM2.5, O3, and NO2 levels were obtained from Belgian Environmental Agency air pollution records. A statistical model called RIO was used to provide a real-time evaluation of air pollution exposure in each part of Belgium with adjustments for population density.

Ambient air pollution is a mixture of particulate matter (PM) and gaseous air pollutants such as sulphur dioxide (SO2), nitric dioxide (NO2), and ozone (O3). Fine particle pollution, also called PM2.5 (less than 2.5mm diameter) has the ability to reach the lower respiratory tract and carry a large amount of toxic compound into the body. Particulate matter 2.5mm diameter (PM2.5) and NO2 originate predominantly from the combustion of fossil fuels such as emissions from industrial plants or vehicles.

Stemi registry

All patients entered in the Belgian prospective STEMI registry between 2009 and 2013 were included. Data on STEMI incidence came from the Belgian Interdisciplinary Working Group on Acute Cardiology (BIVAC) STEMI registry using STEMI hospitalisation as a proxy indicator. Between 2009 and 2013, a total of 11,428 hospitalisations for STEMI were included.

The risk related to PM appears to be greater in the elderly, while younger patients appear to be more susceptible to NO2 exposure.

The association between STEMI and air pollution was observed within one day of exposure. This was despite the fact that concentrations of air pollutants were within the European air quality standard.

Dr. Argacha concluded: ‘This is the first study to examine the effect of air pollution on STEMI occurrence at a national level using a prospective observational registry of unselected patients. We found that particulate and NO2 air pollution, at levels below European limits, are associated with an increased risk of STEMI. The detrimental impact of NO2 exceeds that of fine particles and raises new public health concerns’.

References


About yesterday

SESSION 5: CUTTING EDGE PERCUTANEOUS VALVE INTERVENTION IN INTERVENTIONAL CARDIOLOGY IN BELGIUM TAKES THE LEAD!

The BSC 2018 Congress started Thursday morning with a session organised by the Belgian Working Group on Interventional Cardiology (BWGIC), a working group of the BSC. The goal of the BWGIC is the stimulation and dissemination of science related to interventional cardiology in Belgium. The president Prof Dr Waldé De Backer (UZ Leuven, BE), with whom we spoke before the session, informed us that the world of interventional cardiology in Belgium answers to everything what modern cardiology stands for. A lot of work has been done, but there is still a lot to be done!

This session gave us a view on the future. The working group prepared some challenging topics for the attendees focused on new developments in percutaneous valve intervention cardiology. The moderators were Josée Kefer (UCL, Brussels, BE) and Christophe Dubois (UZ Leuven, BE).

Johan Boomsma (UZ Antwerp, BE) gave the first speech and talked about TAVI and the recent and future evolutions in the field of the techniques and devices.

TAVI (Transcatheter Aortic Valve Implantation) is now mainstream treatment to replace damaged aortic valves and repair aortic valve stenosis. First, TAVI has emerged as the current therapy of choice in patients with severe aortic valve stenosis who are not candidates for open heart surgery and as an acceptable alternative to high risk surgery in patients who are operable. But there is now a shift from open- or high-risk patients to younger patients or those with less surgical risk. In certain countries like Germany about half of the aortic valve interventions is a TAVI procedure. In Belgium, the proportion of TAVI remains lower for the moment partially because of the more re-embolisation concern.

The TAVI valve and techniques are becoming better as we learn more about the patients' anatomy.

The last and international speaker of this session was Sonia Petronio from the University of Pisa, Italy and her subject was ‘Percutaneous mitral valve replacement: ready for prime time? She discussed new techniques and devices for the percutaneous mitral valve (MV) replacement.

The observation that a significant number of patients are not referred for MV surgery and the desire for less invasive approaches have led to the development of different percutaneous approaches aiming at treating MR. During the past few years several percutaneous transcatheter MV repair (TMVR) technologies have emerged as possible alternatives to open surgery for high-risk patients and these technologies are currently at different stages of investigation and clinical implementation.

Conscious sedation

He also discussed new ways by which TAVI procedures can be done. Instead of general anaesthesia in combination with transoesophageal echocardiography (TEE), there is a tendency towards procedural sedation and analgesia, referred to as conscious sedation, defined as a technique of administering sedatives or dissociative agents with or without analgesics to induce a state that allows the patient to tolerate unpleasant procedures while maintaining cardiorespiratory function. The patient is related but stays awake and there is less need for TEE. The intervention can be shorter and less invasive, and the duration of the hospitalisation can also be shorter. This conscious sedation is often feasible in case of femoral or subclavian access, but if the intervention is through the apex there is still need for general anaesthesia.

Off-label use

Bernard De Buyse (OLV Aalst, BE) gave us some insight in the potential of off-label use of TAVI and MitraClip devices. A TAVI device is ‘classically’ meant to be implanted in the aorta and a MitraClip device is indicated for mitral valve insufficiency. But other applications with these devices are being explored. There is research going on to treat off-label other valve disorders with existing regurgitant valves or even of the options is to treat severe tricuspid insufficiency with a MitraClip or to implant a TAVI device for another valve disorder than the aorta. Of course these studies are still in phase 2 and semi-experimental.

The session this year, which took place on Thursday morning, focused on the new advances in endocarditis. Laura Anguil (CHU Brugmann Brussels) and Wael Heggermont (Heart Centre, OLV Aalst, Belgium), as the 2 co-presidents of YC, were the moderators of the session.

Multi-modality imaging in 2018

Prof. Huifat Fabric (Paris France) was the invited international expert and talked about the clinical indications of nuclear imaging techniques and particularly how they can be used in the detection of infective endocarditis in prosthetic valves and implanted electronic cardiac devices.

Innovations in endocarditis treatment

Prof. Vasasche Thomas from UZ Leuven (Belgium) elaborated on the interactions between platelet and bacteria favouring infective endocarditis. More specifically, he explained how our understanding of the pathophysiology of endocarditis is important to develop new therapeutic strategies.

Best abstract: Stéphane Fourney (OLV Hospital, Aalst, BE) presented his study: 6 years of follow-up of fractional flow reserve-guided versus angiography guided coronary artery bypass graft surgery. Fractional flow reserve (FFR)-guided CABG surgery has been associated with lower number of graft anastomoses, lower rate of on-pump surgery, and higher graft patency rate as compared with angiography-guided CABG surgery. However, no clinical benefit was observed up to 3 years of follow-up. The purpose of the study was to analyse the long-term follow-up of FFR-guided versus angiography-guided CABG surgery. The conclusion is that FFR-guided CABG is associated with a significant reduction in the overall death or myocardial infarction at 6 years of follow-up.

SESSION 6: HEART FAILURE WHAT IS THE BELGIAN WORKING GROUP ON HEART FAILURE (BWHGF) DOING?

On the occasion of the session of the Belgian Working Group on Heart Failure (BWHGF), we asked Dr Walter De Groote (vice-president of the group) what they are doing.

Dr De Groote said: ‘The Belgian Working Group on Heart Failure (BWHGF) has different objectives, namely to promote the quality of the management of heart failure in Belgium; to establish, disseminate and follow the implementation of the scientific guidelines in education, continuing education and clinical practice for the treatment of heart failure; to promote scientific exchange and to encourage basic and clinical research in the field of the management of heart failure; to increase the awareness of heart failure in Belgium; to promote collaboration between the different working groups of the BSC and to be an interlocutor in collaboration with the Belgian Society of Cardiology with healthcare authorities.’

On Thursday at the 2018 Congress of the BSC, we organized a session entitled ‘Heart failure and the management of the Co-morbidities’ in collaboration with the Nursing working group (BWGN). My co-moderator of this session was Pierre Tisonfatioane (CHR Liège, BE) and we welcomed five outstanding speakers.

Here are some key messages:

- Heart failure nurses are crucial in taking care of the management and the comorbidities of this epidemic disease.
- Sleep-disordered breathing is common in patients with HF and has been suggested to increase the morbidity and mortality in these patients.
- Patients with diabetes have an increased risk of developing heart failure and those with heart failure are at higher risk of developing diabetes.
- Pulmonary hypertension (PH) due to left heart disease is believed to be the most common cause of PH and is associated with high morbidity and mortality.
- Worse heart failure or acute decompensated heart failure can accelerate worsening of renal function, the so-called cardiorenal syndrome.
SESSION 10 AT 9H00
LEARN MORE ABOUT THE PROGRESS IN CARDIAC REHABILITATION

Dr Raymond Kacnenloburg (CHU St. Pierre, Brussels, BE) from the Belgian Working Group on Cardiovascular Prevention and Rehabilitation (BWGPR), who moderated together with Marie-Christine Illou (G. Puimpolido Hospital Paris) the session entitled ‘Cardiac rehabilitation: are we getting better?’, makes us curious about what to expect during this session. The 3 topics that will be discussed reflect new aspects of cardiac rehabilitation. The speakers are part of the nucleus of the EAPC (European Association for Palliative Care).

Costas Doros (Biomedical Research Foundation Academy of Athens, GR) will give a speech entitled ‘The efficacy of CR in the contemporary era of optimal acute revascularization and evidence-based pharmacotherapy: results from the CROS study. This recent meta-analysis (CROS STUDY) shows a very important effectiveness of cardiac rehabilitation in secondary prevention in patients after a coronary event or coronary bypass surgery (the examined parameter was physical capacity).’

Dr Doros will explain why this meta-analysis shows better results compared with older studies. One of the reasons is the evolution in cardiac rehabilitation towards a more rigorous methodology.

In the second speech ‘Patient-tailored exercise prescription, the EXPERT tool’, our second international guest speaker Marie-Christine Illou (G. Puimpolido Hospital Paris, FR) will explain that the ‘expert tool’ is a computer program that can help to decide about the rehabilitation modalities which are most suited for a given patient, taking into account his or her diseases (cardiomyopathy or diastolic insufficiency, arthritis of the lower limbs), as well as the patient’s characteristics (age, gender, muscular force), the comorbidities (diabetes, obesity, respiratory insufficiency, …). The program is available on the Internet.

Professor Marie-Christine Illou will show us some practical examples about the use, as well as potential points of criticism of this new software tool.

Lastly, Ines Frederix (U Hasselt, BE) will talk about ‘Innovative care delivery strategies for Cardiac Rehabilitation.’ She will explain the interest in tele-rehabilitation which can partially replace phase II where the patient would visit the rehabilitation center in an ambulant way.

Even in a small country like Belgium where the hospitals are nearby, we must not forget the possibility of a septal defect. During examining a patient and finding an unexpected physiological situation, like a strange Doppler flow or an unexplained dyspnoea, the cardiologist should pay special attention to the fact that patients with congenital heart disease, in particular patients with so-called simple cardiac shunting lesions, require special attention of the cardiologist.

Professors Antoine Bondue (UCL Brussels, BE), Rafał Lochy (UZ Brussels, BE) will present their cases where the interest in tele-rehabilitation is clearly demonstrated.

Ines Frederix will bring us an update about the results obtained with an innovating system that makes use of text messages.

SESSION 11 AT 9H00
WHY NOT CHOOSE FOR CHALLENGING THE STEMI GUIDELINES

Patrick Coussément (BIWAC) wants you to participate at what promises to be a challenging session: Challenging the STEMI guidelines!

Indeed, if you want to learn about the ‘Top ten messages from the 2017 ESC STEMI guidelines’ you should listen to Stefan James (Uppsala University, SE). Last year at the ESC 2017, new guidelines about STEMI were presented. Stefan James is the president of the committee that elaborated the new ESC guidelines, so Stefan James is certainly one of the most important cardiologists in the field of STEMI in Europe and it’s an honour to have him here in Brussels.

Also very interesting will be the presentation of our current President, Marc Claeys, about Ten years of STEMI registry in Belgium. It’s important to know and evaluate how theory and guidelines translate into daily practice. It’s not surprising that PCI is now more than ever the first treatment because ‘time is muscle’, and that DES are widely used.

Professor Markus Schwerzman will show us some practical examples about the use, but also potential points of criticism of this new software tool.

The overall goal of this session is to raise awareness among cardiologists about the fact that patients with a life-threatening situation and with STEMI should be treated immediately. It’s not surprising that PCI is now more than ever the first treatment because ‘time is muscle’, and that DES are widely used.

Session 12 at 10.15: Avoid the Friday afternoon slump

SEPTAL DEFECTS: MIND THE GAP!

Antoine Bondue from the Belgian Working Group on Adult Congenital Heart Disease (BWGACHD) wants your full attention for the complex and misleading world of septal defects and ensures that you will stay awake.

‘The overall goal of this session is to raise awareness among cardiologists about the fact that patients with congenital heart disease, in particular patients with so-called simple cardiac shunting lesions, require special attention of the cardiologist.

While examining a patient and finding an unexplained disorder, like a strange Doppler flow or a dilated night choroid or an unexplained dyspnoea, we must not forget the possibility of a septal defect. Our international guest Markus Schwerzman will talk about this hidden danger and how to not miss, diagnose and assess the gap. Should septal defects be closed and why? Or ‘Can septal defects be tolerated and should therefore not be closed?’ are the two questions for a pro/con debate between Marc Gewillig and Marielle Morrissens. Join us for the answer this afternoon!'