



volume 49 | 1
february 2008

EDITORIAL

2008, what will it bring?

EVIDENCE BASED 3

Misoprostol for incomplete abortion. A useful alternative to curettage?

CASES 4

Women deliver: about the quality of obstetric care in resource-poor settings

PRACTICAL PAPERS 6

Cardiac Failure in Sub-Saharan Africa: causes and management

CONFERENCES AND SYMPOSIA 10

International Federation of Rural Surgery Conference

MEDIC Foundation celebrated 25th anniversary

SNIPPETS 12

Misoprostol warning!!

How long have we got?

Oral vaccine to control outbreaks of Cholera

BOOK PAGE 13

Noma, the true face of poverty

The surgical treatment of Noma

Urgently Wanted: Sponsor for the reprint of a very useful medical book: The Clinical Book

Welcome to MT in 2008! During the last weeks of 2007 we began sending MT to district and church hospitals in Tanzania and Malawi where we hope it will be read by our local colleagues. MT aims to be a magazine written not only for but also by its readers. We therefore again invite old and new readers to contribute. We welcome cases, short reviews applicable on the workforce, highlights of research, ideas and so on. Most of us are emotionally involved in our work and we will be happy to publish your instances of culture shock, successes, disappointments, mistakes or even

a nagging sense of failure. We encourage debate and we hope you will argue against the views expressed on these pages. Not everything needs to be dead serious, however, you can share an amazing or amusing titbit. Whatever you write, add a picture or illustration if you can. We like MT to be informative and a pleasure to read!

We wish you all a healthy and prosperous 2008!

Frits Driessen, Editor of MT 49:1.



Photo: H. de Vries

2008, what will it bring?

At the beginning of a new year, traditionally we look back on the one that has passed and wonder about what the next one will bring. Soon the first annual reports of organizations and international health programmes will be circulated reminding us of good progress made in international health. But predictably we will also be warned that much still needs to be done to reach the ambitious goals that we, the internatio-

nal community, have set ourselves. The millennium development goals and big private funds, for instance, have boosted resources available for AIDS treatment. Millions of people have benefited from the possibility to start treatment. Globally malaria and tuberculosis control have both taken leaps forward but in sub-Saharan Africa progress has been less than in other continents. We are repeatedly reminded that child

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Language editing

Elsa van Gelderen

Editorial secretariat

Ingrid Gerhardt-Kruij
Postbus 176
7400 AD Deventer
Tel: 0317-422410
E-mail: MTRedactie@xs4all.nl
www.nvtg.org

Design

Atelier Grottesque &
Françoise Nick, Amsterdam

mortality, maternal health and life expectancy have hardly improved in many African countries. The article 'Women deliver' by van Roosmalen et al. illustrates the continuing harsh reality for pregnant women in resource poor countries. In contrast the New England Journal of Medicine recently published a study concluding that the millions of CT scans performed yearly, will soon be responsible for 1.5 - 2 % of all cancer in the US. Ironically many of these scans are performed on healthy people without clear medical indication.

During 2008 we will 'celebrate' the 30th anniversary of the Alma Ata declaration, "Health for all by the year 2000". We can expect a critical review of the contribution of 30 years of Alma Ata to the improvement of health. Primary Health Care was once hailed as the way forward to achieving health for all but it has suffered from underfunding and the reluctance by many to take bold measures. During more recent years primary health care was overshadowed by important disease focused programmes. However, a revival of the primary

health care concept seems imminent, stimulated by the need of these same disease specific programmes to reach people at the very poorest level. The importance of a comprehensive health system that encompasses all levels from grassroots through to (inter)national policy makers is once again being recognized. The idea that health is more than merely the absence of specific diseases is back in the centre of attention.

These are just some examples of the broad health issues pending. We expect the year 2008 to bring again promising advances in medicine and again we will face the challenges of putting these into successful use for those who need them most. The continuous quest for equitable health will once again provide ample food for thought and trials. We hope our readers will continue to report their firsthand experiences and raise issues of common interest in MT.

LUCIE BLOK, CHIEF EDITOR



Photo: H. de Vries

Misoprostol for incomplete abortion

A USEFUL ALTERNATIVE TO CURETTAGE?

FRITS DRIESSEN

Misoprostol, originally a drug to prevent the stomach complaints in NSAID users, has proved to be a powerful stimulant of uterine contractions and as such has gained an important place in obstetric practice. It will terminate pregnancy or induce labour at virtually any gestation age and after delivery stops bleeding due to uterine atony.

The November 2007 issue of the BJOG (formerly the British Journal of Obstetrics and Gynaecology) carried two papers from Africa and an editorial on the use of misoprostol to treat incomplete miscarriage (abortion) in poor resource settings. Ten percent of all conceptions end in a spontaneous miscarriage before 12 weeks. In some countries attempts at termination of pregnancy add substantially to this number of "miscarriages". Urban hospitals in particular see large numbers of patients with incomplete miscarriages, some of whom are seriously ill and die. Traditionally, incomplete miscarriage is treated by evacuation of the products of conception by either dilatation and curettage with a metal curette or by suction curettage. Where no electrical suction is available, manual vacuum aspiration with a large syringe (MVA) can be used. Curettage by suction is preferable because it causes less bleeding and less uterine trauma than the mechanical method. All curettage needs trained operators, sterile equipment and operating time which can all be scarce. In some hospitals therefore patients may have to wait for one or more days before the procedure can be carried out, a far from ideal situation.

The two studies, one from Burkino Faso and one from Tanzania together randomized 742 patients with incomplete miscarriages, 368 to MVA and 374 to 600 micrograms of misoprostol by mouth. The investigators selected pregnant patients with vaginal bleeding, an open cervical canal on digital examination and a uterine size no larger than 12 weeks. All patients lived near the hospitals, were in good condition and showed no signs of serious infection. Suspected attempts at termination of pregnancy were no reason for exclusion! The success of the treatment was assessed by history and clinical examination. They found that after two weeks more than 94% of abortions treated with misoprostol had become complete. Only a few still needed MVA. In the majority of patients the abortion was complete after one week. No serious complications occurred. Although the success

rate in the MVA group was a little better at 99 %, the rates of patient satisfaction were high in both the misoprostol and MVA groups.

Is oral misoprostol for incomplete miscarriage ready for the transition into real world practice? The editorial jubilates "that expensive technology involved in medical examination, ultrasound, anaesthesia and surgical evacuation can all be effectively replaced by a vaginal examination to detect an open cervical os and three tablets of misoprostol". There is much truth in this but nonetheless a few points need to be raised.

1. Many treatments perform worse in the real world than in the setting of a study. A vulnerable point may become for example, the detection of an open os and a uterine size no larger than 12 weeks, as this still requires a health worker properly trained in vaginal examination. Unfortunately, the learning of this skill is under pressure due to the (too) large numbers of students at many training institutions and the rapidly increasing use of ultrasound.
2. It is probably wise to keep the patient under observation for a few hours after the administration of the misoprostol during which time most bleeding and expulsion of the products of conception are likely to occur. In fact, the Tanzanian study states specifically that this was done.
3. It is important to ensure that the patient has access to emergency care during the following weeks. This means a careful explanation to the patient and checking that her circumstances in fact permit such access.
4. One needs to be familiar with the side-effects of misoprostol. On the whole these are not serious but they do include shivering and fever as well as vomiting and diarrhoea.

Will the use of misoprostol help reduce the severe morbidity and mortality due to abortion as the authors in the BJOG clearly hope? This remains to be seen. The criteria for the use of misoprostol in the two studies lead to selection of patients at comparatively low risk of serious complications. The studies therefore allow no conclusions in this respect. At the moment it seems to me that its main contribution will be to reduce the workload of surgical evacuations of low risk patients. It would be most valuable if units starting to use misoprostol for incomplete abortion, document and publish their results in the form of observational studies. Anyone volunteering?

Misoprostol's main contribution will be to reduce the workload of surgical evacuations of low risk patients

Correspondence:
fritsdr@planet.nl

Women deliver

JOS VAN ROOSMALEN

• Leiden University
Medical Centre
the Netherlands

Department of Obstetrics

• VU University

Medical Centre Amsterdam

Section of Health care
and Culture

GODFREY MBARUKU

Maweni Regional Hospital

Kigoma, Tanzania

JOGHUM BELTMAN

Thyolo District Hospital

Malawi (now: The Hague
the Netherlands)

CHRIS VAN SCHAİK

Ndala Mission Hospital

Tanzania (now: Breda, the
Netherlands)

TAREK MEGUID

Bwaila Hospital Lilongwe

Malawi

Department of Obstetrics

ABOUT THE QUALITY OF OBSTETRIC CARE IN RESOURCE-POOR SETTINGS

Women in resource-poor settings very often give birth at home or reach hospital only after complications have already developed. Many reasons which prevent women from making use of available health facilities are beyond the influence of clinicians. There are, however, areas where clinicians can make a difference. The attitude of health workers and the lack of continuous emotional support during labour have often been blamed for women coming to hospital too late.¹ Inadequate quality of care in the health institutions is within the scope of clinicians. In this report we present five cases which illustrate how the community perceives the hospital as a place of last resort, a place where women experience serious problems, where they may even die.

THE CASES

The first woman is a 20 year old primigravida with an unknown HIV-status. She was admitted to hospital with obstructed labour and intrauterine fetal death at term. She was delivered by Caesarean section, which proved extremely difficult. It was difficult to deliver the deeply engaged fetal head through the uterine incision. The incision had to be extended into a J-shape. Postoperatively the woman developed sepsis and pus drained from the abdominal incision. When the abdomen was reopened, it was found that the uterine incision had become necrotic. Because of the young age of the woman without living children the uterotomy wound was debrided and the uterus could be saved. She survived but has a high risk of being infertile as a result of the pelvic sepsis.

The second woman is an HIV-negative 19 year old primigravida who was admitted to a dispensary in labour with a cervical dilatation of 6 cm. Labour stagnated at 9 cm and she was referred to hospital 18 hours later. On arrival she had reached the second stage of labour with a good fetal heart rate and an engaged fetal head (two-fifth was still palpable above the pelvic brim). She was put on oxytocin-augmentation by the midwife who called the clinical officer after two hours because of no progress. Two hours later the clinical officer came to assess the woman and decided to attempt a vacuum extraction. Again two hours later Caesarean section was performed because the vacuum extraction had failed. Twenty-eight hours after labour had started, a child of 3200 grams was born by Caesarean section with an Apgar score of 5/10.

On the 8th postoperative day re-laparotomy was performed for peritonitis and uterine wound dehiscence. Debridement and repair was undertaken in an attempt to save the uterus. The woman stayed septic, however, and was operated again on the 13th postoperative day, when subtotal hysterectomy had to be performed. She survived but her baby died from dehydration and sepsis.

The third woman is a 38 year old multigravida, admitted to hospital with an intrauterine fetal death and a prolapsed arm. The assistant medical officer suggested to perform Caesarean section, but the medical officer chose to perform decapitation. This procedure was performed under general anaesthesia. The woman had an uncomplicated postoperative course and left the hospital with an intact uterus.

The fourth woman is gravida 2, para 1, 19 years old, the first baby was stillborn. Her height was 1.44 m. On admission to hospital the fetal heart was not



Photo: H. de Vries

heard; the cervix was 9 cm dilated. Caesarean section was performed and a fresh stillbirth of 3300 grams was delivered. The first stage of labour had lasted 26 hours. The mother died from sepsis two days later.

The fifth woman is a 25 year old primigravida. The first stage of labour had lasted 48 hours and the membranes had ruptured 24 hours before admission to hospital. She had serious problems finding transport to go to the hospital. On admission, there was obstructed labour with full dilatation and intrauterine fetal death. A fresh stillbirth of 2700 grams was delivered by Caesarean section. A few days later the mother died from sepsis.

DISCUSSION

All women, except the second one, presented with a similar problem: the baby had already died in utero before admission to hospital. Caesarean section may be dangerous in such cases, because obstructed labour has already caused intrauterine infection and opening the uterus will enable the infection to spread to the peritoneal cavity, possibly leading to peritonitis, sepsis and eventually maternal death (cases 4 and 5). When the mother does not die, she may suffer from infertility, or when pregnancy occurs, from ectopic pregnancy. Destructive operations such as craniotomy or decapitation are unpleasant operations to perform, but are performed in the best interest of the mother and her future reproductive career. Destructive operative delivery would have given these women a better chance to survive or suffer less morbidity. They would have a chance of a better outcome of a future pregnancy. The clinical officer in the second case decided rightly that instrumental vaginal delivery was indicated. In a hospital where 13.8% of births are Caesarean sections and only 1.5% vacuum extractions, the general clinical officer, however, may have inadequate experience of doing vacuum extractions. In such cases he should not hesitate to call a doctor with better skills. Operative vaginal delivery is the kind of procedure for which training under adequate supervision is mandatory.² The woman reached the dispensary in time but her referral was much delayed and her management in hospital should have been more skilful.

Our patients are not exceptional, unfortunately. Many similar cases occur. The state of affairs in health

facilities is well-known to patients who are therefore reluctant to seek help there, adding to delays.³ One of the strongest arguments to seek help is the notion that optimal care will be provided once you reach the clinic. To provide this care is the ultimate challenge for the clinician who is confronted with the 'gamble of childbirth'.⁴

Poor people in resource-poor settings have less access to potentially life-saving Caesarean sections as compared to the better off. That was the outcome of a survey of approximately 200,000 deliveries ending in a live birth as reported by women themselves through demographic health surveys (DHS).⁵ These DHS-data do not take into account, however, the number of women who die after Caesarean section and the number of stillbirths and even very early neonatal deaths which occur after Caesarean section. Two of our five women would never have been interviewed in DHS-surveys, because they did not survive childbirth. And the other three would not have been asked anything, because the methodology of DHS-surveys is only based on deliveries ending in a live birth. Our case-histories are no exceptions: in one district hospital in Tanzania 22 (3.9%) maternal and 52 (9.3%) perinatal deaths in 561 Caesarean sections were recorded in a two year period. In a busy ward in a Dar es Salaam rehabilitation hospital where vesicovaginal fistulas are repaired, the majority of women in need of repair have an obstetric history of Caesarean section with a stillborn baby. They almost invariably come from the lower socioeconomic strata, most of them having had no or only a few years of primary education. We hypothesize that perinatal and maternal mortality and serious morbidity after Caesarean section more frequently occurs in the lower wealth-quintiles. It is certainly true that these women have less access to Caesarean section. However, when they do get to it eventually, the intervention often comes too late to prevent perinatal or even maternal mortality.

Correspondence: j.j.m.van_roosmalen@lumc.nl

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Caesarean section is dangerous in obstructed labour with a dead fetus, a destructive procedure is often safer

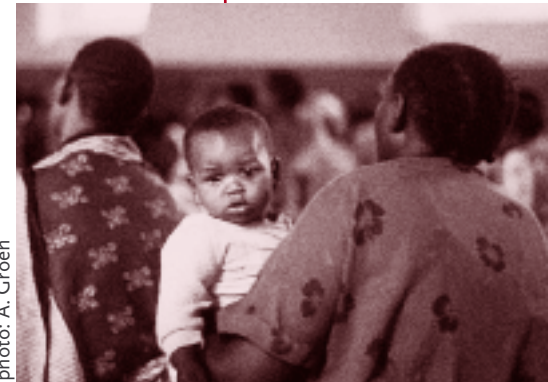


photo: A. Groen

Poor women have less access to Caesarean section. However, when they do get to it eventually, the intervention often comes too late to prevent perinatal or even maternal mortality

Cardiac failure in sub-Saharan Africa

EE ZIJLSTRA

Department of Medicine,
College of Medicine
Blantyre, Malawi

CAUSES AND MANAGEMENT

While tropical medicine continues to be dominated by infectious diseases, the so-called non-communicable diseases and syndromes such as diabetes mellitus, hypertension and cardiac failure have always been important. Cardiac failure (CF) is common: while “old conditions” like rheumatic heart disease, cardiomyopathies and hypertension remain important causes, atherosclerosis and ischaemic heart disease are becoming more frequent among urban populations where risk factors such as obesity, sedentary lifestyle and smoking are on the increase. The arrival of HIV infection in the 1980s has also caused an increase in cardiac disease. The myocardium can be affected by the HIV virus itself or indirectly by opportunistic infections, malignancy, drug toxicity or nutritional factors. Pericardial disease (mainly tuberculous and malignant pericarditis) is also on the increase. (Magula, 2003; Makokoto, 2003; Sliwa, 2005). More recently, antiretroviral therapy (HAART) introduces new risk factors for ischaemic cardiac disease, as certain antiretroviral drugs, in particular the protease inhibitors, are associated with the lipodystrophy syndrome, hyperlipidaemia, hyperglycaemia and insuline resistance (Makokoto, 2003).

INTRODUCTION

CF may be caused by endocardial, myocardial or pericardial disease. Endocardial disease usually means rheumatic heart disease (RHD) caused by rheumatic fever which is still common and is associated with poverty and overcrowding. In certain populations (mainly Uganda) endomyocardial fibrosis is an important cause. Myocardial disease leads to dilated, hypertrophic or restrictive cardiomyopathy (CM). Dilated or congested CM is the most common variant and may be the result of long-standing hypertension, viral myocarditis, toxins such as alcohol, excess iron intake, or vitamin B deficiency. A special form is postpartum cardiomyopathy that has a restricted geographical distribution: in Nigeria pregnant Hausa women are in the habit of a high salt intake by eating rock salt “kanwa” and heating of the body in the puerperium with subsequent vasodilatation, hypervolaemia and hypertension (Elkayam, 2005). Pericardial disease may be caused by rheumatic fever but more recently HIV associated tuberculous pericarditis has become a more common cause. For all types of heart failure it is important to recognize and treat common aggravating factors such as infections, anaemia and hypertension. Heart failure has a high morbidity and mortality that is well recognized in developed countries; additional risk factors for poor outcome in developing countries include concomitant illness, unavailability of drugs and different or decreased response to certain drugs.

It should be noted that CF is not a diagnosis per se but a manifestation of underlying heart disease; recognizing its cause may significantly improve outcome as specific treatment can be given in addition to the

otherwise syndromic approach.

The most pragmatic definition of heart failure is the presence of symptoms and signs suggestive of CF and the response to treatment. Over the years various terminology has been used in describing heart failure (left vs. right-sided, forward vs. backward, systolic vs. diastolic). While left and right-sided heart failure often occur simultaneously, distinguishing between left and right-sided heart failure is useful from a clinical point of view. For example, patients with pericardial effusion (e.g. tuberculous in HIV disease) and cor pulmonale (e.g. because of destroyed lungs after tuberculosis or in silicosis) present with right-sided failure only and require a very different approach to management. Distinguishing between backward - and forward failure has limited clinical usefulness. More recently, heart failure has been described as systolic failure (most common: poor contractility of left ventricle e.g. caused by myocardial infarction, dilated CM, hypertensive heart disease) or diastolic failure (less common: increased stiffness of LV and reduced filling that is mainly associated with hypertension and overweight but also may be caused by infiltration of the myocardium e.g. by amyloidosis or haemochromatosis).

PATHOPHYSIOLOGY

Cardiac failure is thought to develop by the following mechanisms. When the LV function fails and the blood pressure drops, the sympathetic nervous system is activated leading to release of catecholamines; this leads to vasoconstriction and increased afterload to restore blood pressure. Secondly, impaired renal perfusion leads to activation of the renin-angiotensin aldosterone system (RAAS) also causing vasoconstriction

but on top of that retention of sodium and water, thus increasing preload. Both mechanisms while adequate in other causes of hypotension e.g. caused by hypovolaemia (blood loss, dehydration), are inappropriate in CF because they make things worse by further increasing preload and afterload, thus increasing the work for the already failing heart. The heart will try to maintain cardiac output by dilating and compensating via the Frank-Starling mechanism (increased diastolic fibre length leads to increased output), but ultimately the ejection fraction will fall with decreased output and increased ventricular stiffness (leading to impairment of filling and thus congestion). Other more complex mechanisms are involved; these are beyond the scope of this review.

APPROACH TO THE PATIENT WITH HEART FAILURE

This is typically a syndrome in which the diagnosis should be made by taking a careful history and a thorough physical examination (box 1). Additional investigations may be helpful, but are not always available. It is useful to grade the severity of CF using the NYHA classification (box 2).

It is important to look for an underlying cause for the heart failure, which should be treated first (e.g. anaemia, hypertension, thyroid disease); in addition, patients with established and stable CF may present with an exacerbation because of an intercurrent event such as anaemia, infection or arrhythmia. Salt restriction can be tried, the patient should be advised not to add salt to his food and to avoid salty food. Moderate activity or exercise may lead to increased exercise tolerance; bedrest is not beneficial. Reduction of weight and alcohol intake are useful.

TREATMENT

Treatment aims at counteracting the pathophysiological mechanisms underlying CF and various modes of treatment have been the subject of several large studies.

THE OPTIONS INCLUDE:

1. diuretics to reduce extracellular volume
2. ACE inhibitors to oppose the activated RAAS
3. low dose beta-blockers to oppose increased sympathetic activity
4. venous and arterial vasodilators to reduce preload and afterload
5. digoxin to increase myocardial contractility

GENERAL PRINCIPLES

Although the results of many excellent studies are now available it should be kept in mind that all large studies on medical treatment of heart failure have been conducted on whites in western countries.

Some data indicate different responses in blacks but no studies are available from developing countries. Hence there could be important racial differences in the response to treatment. Most drugs needed would be expected to be available in a resource-poor setting but it is important to make rational use of them. As a general rule it is important to give adequate doses and to avoid underdosing as the patient may then not have the maximum benefit. This often means higher doses than used for the treatment of hypertension. Make sure what drugs are available when the patient goes home; there is, for example, no point in starting an ACE inhibitor in hospital if this is not available or affordable after discharge.

USE OF SPECIFIC DRUG CLASSES

Diuretics

In severe CF furosemide 40 - 80 mg is given intravenously as congestion of the gastrointestinal tract may influence absorption of oral drugs. If the diuretic response is not satisfactory, a higher dose should be given rather than repeating the same dose. In renal insufficiency maximum doses of 160-200 mg are used. High doses should be infused slowly to avoid acute ototoxicity. After stabilization, the patient can be switched to oral administration.

Thiazide diuretics, in particular hydrochlorothiazide (HCT) are widely available and can be used as maintenance drugs e.g. HCT 25 - 50 mg once daily, but are not as effective as furosemide. Thiazide diuretics unlike furosemide are not effective in renal failure. A combination of oral furosemide and HCT may be successful but both may cause severe potassium loss. Potassium supplements are advised such as Slow-K or if not available, certain fruits can be recommended such as green bananas (10 mmol/100 g) or avocados (7 mmol/100 g) (Delapenha, 1980). When possible potassium and urea and creatinine levels should be checked. Monitoring of blood pressure is mandatory. Potassium-sparing drugs (spironolactone, amiloride, triamterene) may be added to either furosemide or thiazides for increased diuretic effect; these will also counteract loss of potassium and no supplements will be needed. They also oppose the effects of raised aldosterone levels. Spironolactone (25-50 mg od) (or the more selective aldosterone antagonist eplerenone) has been shown to reduce mortality (30% reduction) in patients with NYHA class III and should always be added if available (Pitt, 1999). Whether a similar effect can be expected in patients with milder CF is the subject of study.

ACE inhibitors (ACE-I)

This powerful class of drugs is increasingly becoming available in the tropics. They reduce mortality up

to 50% (Garg, 1995) and should be prescribed to all CF patients if available. However, in various studies the effect of ACE-I was less good in blacks. Blacks had more benefit from the isosorbide - hydralazine combination (Carson, 1999; Taylor, 2004). Captopril and enalapril are the most well-known compounds. Initiating treatment includes a test dose (captopril 6.25 mg or enalapril 2.5 mg orally) and the BP should be measured before and 30 minutes later. Some patients may show a severe drop in BP, in particular those on diuretics; in that case the diuretics should be stopped for a few days and restarted after introduction of the ACE-I. It is important to dose adequately. This would mean captopril 50 mg tds, enalapril 20 mg bd or lisinopril 40 mg od. In renal failure doses should be reduced.

Angiotensin II receptor blockers (ARB)

These may be used instead of ACE inhibitors in case of intolerance or may be added; they are, however, expensive. They are probably equally or only a little less effective than ACE-I in class NYHA II or III patients (Jong, 2002).

Vasodilators

Isosorbide dinitrate 40 mg tid or hydralazine 25-100 mg tid are a good option and have been shown to reduce mortality although not consistently. Afro-Americans seemed to benefit most (Carson, 1999; Taylor 2004). It has the disadvantage of a large number of tablets.

Beta-blockers

In the recent past these were thought to be contraindicated because of having a negative effect on heart muscle contractility and slowing the heart rate. More recent insight focuses on the counteraction of sympathetic activation, thus reducing catecholamine levels; furthermore they improve coronary perfusion and have an antiarrhythmic effect. In the long term, the LV ejection fraction increases and mortality is reduced by 50% (Packer, 2001). Beta-blockers are indicated for patients in NYHA class I, II and III. These effects have so far been shown for a limited number of beta-blockers, which include carvedilol, bisoprolol and metoprolol (Brophy, 2001; Foody, 2002). Other beta-blockers can be used that may be more commonly available such as atenolol and also the non-cardio-selective beta-blocker propranolol as the effect is not influenced by cardioselectivity. Furthermore, patients need to be stabilized and be without oedema before starting a beta-blocker. Low doses should be given initially which need to be slowly increased over weeks and require frequent outpatient visits to detect deterioration which, depending on available infrastructure may or may not be feasible. There are some concerns

about their effectiveness in blacks.

Digoxin

Digoxin may increase myocardial contractility and thus improve left ventricular output. The classical indication for digoxin is atrial fibrillation with rapid ventricular response leading to CF. An important study has shown that while digoxin does not have an overall effect on mortality in CF, it reduces mortality due to worsening of heart failure. Patients also benefit by increased well-being and reduction in the number of hospital admissions although there appears to be an increased risk of sudden death (DIG trial, 1997). Digoxin should not be started in patients with acute CF but it may be given to patients who are still symptomatic on a regimen of diuretics and an ACE-I.

Other drugs

Calcium antagonists should not be used in heart failure. Patients with atrial fibrillation should be on anticoagulation to prevent thromboembolism; while it is usually not feasible to give warfarin because of lack of capacity to monitor INR, aspirin (75 mg od) may be given although its effect may be minimal. NSAIDs should be avoided as they lead to fluid retention.

In summary, all patients should be started on furosemide and spironolactone, and an ACE inhibitor is started after fluid control. After that a beta-blocker is introduced (if feasible). Digoxin may be added in those who are still symptomatic. An ARB may be added if needed. Blacks may benefit from isosorbidedinitrate and hydralazine, in particular those who cannot afford ACE-I or who do not respond well to ACE-I or beta-blockers. Potassium supplements are not necessary if an ACE-I or spironolactone is used. Additional measures include low sodium diet, physical exercise, stopping alcohol and counselling about compliance and not letting drugs run out.

References are available from the author.

Correspondence: eezijlstra@malawi.net

Box 1

HISTORY

- history of rheumatic fever
- known cardiac problems
- hypertension
- recent (viral infection-like) illness
- degree of exercise that causes breathlessness
 - walking on flat, walking and talking, walking uphill etc.
- effect of symptoms on daily life
 - unable to work, go out
- ankle swelling
- orthopnoea
- paroxysmal nocturnal dyspnoea
- nocturia

PHYSICAL EXAMINATION

- BP
- pulse rate and rhythm
- basal crepitations
- displaced apex beat
- gallop rhythm
- murmurs
- JVP raised
- hepatomegaly
- ascites
- oedema (ankle/leg/sacral)

EVIDENCE OF PERICARDIAL EFFUSION

- pericardial rub
- enlarged heart on percussion while apex beat not displaced
- muffled heart sounds
- signs of right-sided heart failure with normal chest
- pulsus paradoxus
- Kussmaul's sign
- hepatojugular reflux

EVIDENCE OF VALVULAR HEART DISEASE

- cardiac murmur
- abnormal and extra heart sounds
- features of heart failure

EVIDENCE OF PULMONARY HYPERTENSION

- underlying pulmonary condition
- left parasternal heave (right ventricular hypertrophy)
- loud or palpable P₂
- evidence of pulmonary and/or tricuspid valve regurgitation
- features of right-sided heart failure

ADDITIONAL USEFUL INVESTIGATIONS INCLUDE

- CXR (heart size, evidence for pulmonary oedema)
- ECG (LVH, arrhythmias)
- Ultrasound (LVH, contractility, valvular lesions, pericardial effusion)
- Renal function: urea, creatinine
- Urine analysis

Box 2

THE NEW YORK HEART ASSOCIATION (NYHA) CLASSIFICATION OF HEART FAILURE

CLASS I

Asymptomatic left ventricular dysfunction

Cardiac disease present, but no undue dyspnoea from ordinary activity

CLASS II

Mild heart failure

dyspnoea not at rest, but present in ordinary activity

CLASS III

Moderate heart failure

Cardiac disease causing marked limitations of physical activity, with dyspnoea on less than ordinary activity

CLASS IV

Severe heart failure

Cardiac disease causing dyspnoea at rest

REINOU GROEN (MD)

INTERNATIONAL FEDERATION OF RURAL SURGERY CONFERENCE

At the end of September, the International Federation of Rural Surgery held its 2nd conference in Ifakara, Tanzania. Approximately 100 surgeons representing 16 countries made a great effort to attend the meeting; Ifakara is a 9 hour drive from the Tanzanian capital, Dar es Salaam. All delegates were warmly welcomed by the conference chairman, Dr. P. Kibatala, Medical Director of St. Francis Designated District Hospital.

The conference started on Thursday the 27th with surgeons from India explaining an inexpensive multi-use orthopaedic tool, called JESS suitable for unstable fractures, clubfeet, and contractures due to burns or leprosy. After this morning session an official part of the congress took place. Important delegates came to Ifakara: The Rt. Rev. Bishop Agaiti, the Minister of Health and Social Welfare, and the Vice President of Tanzania. The latter emphasised the importance of this conference on Rural Surgery. Dr. Ngiloi, a paediatric surgeon and chairman of the Tanzania Surgical Association highlighted the state of surgery in Tanzania for these officials. The long hours, poor conditions and equipment and low salaries in district hospitals cause young doctors in Tanzania to choose TB, HIV and Malaria projects instead of surgery. Nowadays there are only 100 surgeons in Tanzania, a country with a population of almost 35 million people.

The second morning, various workshops took place including one on external fixation led by Dr. J. Rijcken and one covering basic surgical techniques. In the latter workshop, organised by Prof. Prabhu, the issues discussed included the operating room, sterilisation, the use of antibiotics and working with double-gloved hands to prevent HIV infections. When discussing operating room practices, a very remarkable detail came from a Nigerian surgeon, who stated that he always invites the family of the patient into the operating room, to confirm whether the operation which was planned was done properly. His operating room has open windows and only the surgeon and his assistant wear special clothes. However, according to his data, few wound infections are seen.

The presentations that afternoon began with Dr. Shymprasad of India explaining their training program for rural surgeons. This program consists of one year of general surgery, 6 months of gynaecology and obstetrics, 5 months of trauma and orthopaedics, and 1 month of anaesthesia, followed by one year of practice in a peripheral centre with supervision. Dr. Mbwambo of Kenya showed his statistics of working as a consulting urologist for the African Medical and Research Foundation (AMREF). He stressed that

procedures performed by a consulting surgeon were often more affected by the local conditions rather than by the knowledge and skills of the individual. Dr. R. Zuckermann from the United States told about the introduction of laparoscopic surgery in the Dominican Republic and the problems of maintaining and repairing equipment. Many African surgeons concluded that rural Africa was not ready for the introduction of such high-tech procedures. More appropriate technology in rural Nigeria was presented by Prof. Awojobi. He presented a haematocrit centrifuge made from a simple bicycle wheel and an autoclave which was heated by a simple fire. A notable presentation came from Dr. S. Shivadee, who advocated the use of human placentas for biogas to provide power to hospitals.

The final day began with a presentation entitled: 'The Philosophy of Rural Surgery', by Prof. Prabhu. For him, rural surgery means being a pioneer: every district hospital presents different challenges, no two operations can be compared. He stated rules for good rural practice: adopt simple procedures to suit infrastructure and staff experience; invest in essential equipment that the community can sustain, and select affordable protocols and tests. The last but most important issue was to create a team. This rule in rural surgery was also stated in the presentation of Dr. Balalcrishna Patel. He discussed establishing an ICU in a rural setting. Dr. Brahma Reddy presented his thoughts about rural surgery stating: 'Rural surgery is more than rural and more than a surgery.' He would rather talk about an expanded general practitioner, a doctor who needs to be prepared to do all emergency cases alone without assistance from specialists.

Overall the presentations were very informative and would be of benefit to the so called "expanded general practitioner."

Although this conference was attended mostly by surgeons, when the IFRS convenes for its 3rd meeting in 2009 in Rajasthan, India, it is hoped that more general doctors who perform surgery in rural areas will attend.

Correspondence: rsgroen@hotmail.com

Rural surgery is more than rural and more than a surgery

Only 100 surgeons in Tanzania, a country with a population of almost 35 million people

Haematocrit centrifuge made from a simple bicycle wheel

MEDIC FOUNDATION CELEBRATED 25TH ANNIVERSARY

GEORGE P.A. JOOSTEN

On October 12, MEDIC Foundation celebrated its 25th anniversary with a symposium entitled "Medical Development Cooperation: how to proceed?". The preparations for this symposium had started well beforehand in 2006 and this was noticeable from the presentations and flawless audiovisual support in the brand-new auditorium of the Lukas Hospital in Apeldoorn.

In 25 years MEDIC Foundation has developed into an experienced voluntary organisation which supplies used medical instruments and provides technical advice and know-how to resource limited areas of the world.

In Apeldoorn MEDIC has a large warehouse - including a workshop and offices - where tested, adapted or repaired used medical equipment and instruments sit ready for dispatch accompanied by up-to-date documentation and clear user guidelines of which the originals are kept in files for future reference. The organisation was founded and is still run by senior staff with past experience in the tropics. A brand-new DVD offering a guided tour through the premises is available.

It is tempting to say that it is a pity that the present-day MEDIC was not available to the many Dutch health workers that were active in missionary and governmental organisations 25 years ago! They would have taken full advantage of the fantastic services of MEDIC! A lot of practical experience and wisdom has been stored in MEDIC since its foundation by Mr. Froeling!

Since Mrs. Herfkens as the then Minister of Development Cooperation denounced technical support and big NGOs, like Cordaid, followed her sheepishly by rashly terminating the deployment of expatriate health workers, MEDIC has had a problem reaching 'the poor' in economically deprived regions. Local health staff in the periphery of the developing countries still have to find MEDIC. It is questionable whether local doctors and health staff will ever apply for second-hand equipment and senior advisers from abroad if there are no mediators around to pave the way for successful cooperation.

After the lunch Aagje Papineau Salm, formerly adviser of the Directorate General International Collaboration who is well known to many of us, presented a concise history of the development cooperation policies of the Dutch Government since the colonial days. She stated clearly that the big voluntary donor agencies should not have followed the negative approach to 'technical assistance' by Minister Herfkens and her successors. But one has to be realistic and admit that expatriate health workers (in whatever big numbers) are no "solution" to the enormous shortage (and skewed distribution) of medical personnel in Africa!

Another future challenge for Medic was presented by the chairman of the board of directors of the Apeldoorn hospitals. In his view modern hospital equipment is so dependent on the IT infrastructure of the hospital - and will be even more so in the future - that it cannot be transferred elsewhere. Moreover it will work only with regularly updated software, making it unfit for transfer to settings with limited access to such resources.

Mr. Jan Terlouw, a former Government Minister as well as a well-known author, chaired the panel discussions with a soft but steady and experienced hand. All the contributions from the speakers were worthwhile and at times very entertaining. They will be made available in print later.

It became quite clear that MEDIC should put much energy in building up dependable contacts with local NGOs and health organisations or institutes in poor and remote regions of the world. As a first step MEDIC should become better known with all the Dutch health workers presently in the field. Modern communication technology will definitely help to achieve these goals in the next 25 years!

Contact address MEDIC:

Johannes Bosboomstraat 29, 7312LM Apeldoorn.

Further details can be found on www.medic.nl.

For specific questions go to info@medic.nl or call +31-55-3558358.

How are local health staff ever going to apply for equipment from Medic if there are no mediators around paving the way?

FRITS DRIESSEN

MISOPROSTOL WARNING!!

Misoprostol has many applications during pregnancy and its use is rapidly increasing, also in poor countries. In some places it can be bought without prescription. An editorial in the BJOG (see elsewhere in this issue) warns of a serious danger: gross overdose in late pregnancy with uterine rupture, fetal and possibly maternal death.

Because misoprostol was never registered with the Federal Drug Agency (FDA) in the United States or similar agencies in other countries for anything but the prevention of stomach problems in the users of non-steroidal anti-inflammatory drugs (NSAIDs), the information provided with tablets does not explain its correct use during pregnancy. The doses used at different gestations, however, differ by more than a factor 20. The standard dose for the induction of labour near term with a live baby is 25 micrograms by the vaginal route at intervals of 4 to 6 hours. For the termination of a pregnancy with a dead fetus at 12 weeks' gestation

600 micrograms or more is given. The present available tablets contain either 200 micrograms or 100 micrograms. A 200 microgram tablet taken near term can easily cause a disaster.

Fortunately, the original manufacturer's patent expired in 2005. Tablets from other manufacturers are coming on the market and will be of a wider range of strengths. However, information on the correct dosage remains vital. This can be found, for example, on the website www.misoprostol.org.

Finally, the concern raised is different from that of people who feel uncomfortable about the possible use of misoprostol for the inducement of illegal abortion. They may want to remember that whatever one feels about the termination of pregnancy for social reasons, in early pregnancy for the woman misoprostol is a very safe drug and not nearly as likely to kill her as other methods used to procure illegal terminations.

ADRIAAN GROEN

HOW LONG HAVE WE GOT?

Global warming has begun to manifest itself in a way health experts have been warning us for. The September edition of the Infectious Diseases Bulletin reports on an outbreak of Chikungunya in Ravenna province, Italy. Chikungunya is an East African tribal word for 'to contort' or 'to bend'. This refers to the severe low back pain and joint pain, one of the first clinical signs of this (alpha)viral infection which is transmitted by mosquitoes. Other symptoms are fever, prostration and an itching maculopapular rash on the trunk and

extensor surfaces of the limbs. The condition is self-limiting and recovery is usually complete.

Up till now the disease was restricted to Africa, Saudi Arabia, India and Sri Lanka, South East Asia and the Philippines, but now, for the first time, there was an outbreak in Europe. Source of the small epidemic which lasted from June until September was a patient coming from India. Local mosquitoes of the *Aedes Albopictus* species infected some 254 patients, 27 of whom were confirmed cases. One 83-year-old patient with an underlying disease died.

ADRIAAN GROEN

ORAL VACCINE TO CONTROL OUTBREAKS OF CHOLERA

Outbreaks of Cholera can be controlled by giving half the population at risk a two-yearly vaccination with one of the available oral vaccines. The Dutch magazine *Medisch Contact* (30 November 2007) makes mention of this statement which was made by a research team under the guidance of the American scientist in biostatistics Ira Longini. Making use of a computerized simulation model and based on the outcome of a large trial in Bangladesh (180,000 test subjects) Longini et al. calculated that in case of an

outbreak the morbidity of cholera can be reduced by 90 percent if half the population has received the oral vaccine. If one third of the population is vaccinated a 76 percent reduction in the number of cases can be expected.

Populations with a lesser degree of natural resistance than the inhabitants of Bangladesh would need at least 70 percent vaccination coverage to keep outbreaks under control. The article was published online on 27 November by PLoS Medicine.

BY ROELAND VOORHOEVE

NOMA, THE TRUE FACE OF POVERTY*K.W. Marck*

Belvedere/Medididact

ISBN 90 71736 19 9

AND

THE SURGICAL TREATMENT OF NOMA*K. Bos and K.W. Marck*

Belvedere/Medididact € 35,-

ISBN 90-71736-31-8

Five years after the appearance of the first book on Noma by Klaas Marck ('Noma, het ware gezicht van armoede' - 'Noma, the true face of poverty') we now welcome 'The surgical treatment of Noma', written by Kurt Bos and Klaas Marck. This is the more remarkable, because in the first book of Marck a statement can be read that the only work on Noma so far, 'Wasserkrebs' ('Watercancer') by Adolf Richter, goes back to 1828!

The older book by Marck is set up like a triptych. Part one gives a moving account of a trip to Sokoto in the north of Nigeria by a team of plastic surgeons. This proved to be more than medical tourism, because in 1997 the Dutch Noma Society was founded. As a consequence and in close cooperation with the German AWD-stiftung Kinderhilfe the Noma Children Hospital was opened in Sokoto in 1999. It is a unique place entirely dedicated to the complex surgical treatment and reconstruction of the extended mutilation caused by Noma. Superb surgery is performed in less than perfect conditions. Still, this hospital provides medical care to the victims of this scourge of mankind that distorts the human face.

The second part of this book presents an extensive historical overview. Noma is not a tropical, but a poverty related disease. In previous centuries it was common in Europe and the United States, until it disappeared at the beginning of the twentieth century, when even the poorest members of the developing western society were able to feed their children sufficiently. It reappeared during World War II in the concentration



photo: J Borgstein

camp and in the famine during the last year of the war. A pen drawing from Bergen Belsen bears witness to this reoccurrence.

According to the WHO, each year 140,000 people are afflicted by this condition. As a consequence nowadays 770,000 people have a disfigured face, and are social outcasts as a result.

In the third part an update of the medical state of the art is presented. The acute stage of the disease is a necrotizing gingivitis. Malnutrition is an obligatory predisposing condition. Various infectious diseases such as measles, malaria or nowadays HIV are of influence. The acute stage has a mortality that can be as high as 90%. Relatively simple measures such as rehydration, nutrition and antibiotics can reduce the mortality to 20%. Survivors of the disease usually have a hideous disfigurement with loss of lips, cheek and nose in various degrees. Scar formation often results in trismus, and partial or complete ankylation of the jaw. Finally the normal position of the teeth can be in disarray, known as "anarchie dentaire" (dental anarchy). Lastly, a modest introduction in the surgical treatment is provided.

In 2006 'The surgical treatment of Noma' was published by Kurt Bos and Klaas Marck.

It is considered a welcome extension of the previous work, and has become a superb atlas of the surgery of Noma. Based on the experience of hundreds of patients operated on in Sokoto, it aims to provide guidelines for surgeons who are treating Noma patients in rural hospitals.

The first and second chapter deal with etiology and epidemiology, but also comment on the worldwide approach to deal with this disease. Chapter three describes a classification as it was developed in the

Surgical correction of Noma is man's closest approach to Creation



Drawing of a noma patient from the concentration camp of Berge-Belsen

Noma Children's Hospital in Sokoto. This classification describes both the involvement of anatomical structures of the lesion and the extent of tissue loss in a five point score.

Chapter four is about the philosophy and timing of treatment. It takes more than surgical skills to treat Noma. Both preparation before surgery and post operative care are just as important as the intervention itself. Do not perform a complex operation on the day before your departure unless post operative care is ensured!

In chapters 5 and 6 the problems with anaesthesia for Noma patients are discussed. Difficult intubation is inherent to the disease. In particular trismus is a frequently encountered problem. In the specially equipped hospital in Sokoto this is resolved by passing the tube over a fiberscope after the vocal cords have been passed. For those hospitals (the greater part) that do not have a fiberscope at their disposal, some attention should be given to the surgical airway, a procedure which can be performed under local anaesthesia prior to the general anaesthesia needed for the definitive surgery.

In chapters 7 to 9, different techniques are described which can be used for the various areas in the face. Many pictures show how a distorted face can be given a human appearance again. They show that this work is the closest approach to Creation man can achieve. Since the book is intended to be a manual to perform surgery on as many patients as possible, the less difficult procedures are given special attention. Particularly useful is a review of the degree of difficulty and

reliability of the various flaps.

Although the book is written for doctors without experience with Noma surgery, a warning to do 'no further harm' is appropriate: A badly conducted operation will diminish the chances of success in a second attempt. Therefore one should at least have experience in regular surgery.

Beautifully published with a multitude of clarifying illustrations, the price of € 35 makes the book affordable to hospitals in those countries where noma still is endemic. As a historical document however, it also deserves a place in the library of every (plastic) surgical department in the world. The techniques described, are not specific to Noma, but can be applied for reconstruction of the face, regardless of the cause of damage.

I am deeply impressed by this book, both by the surgery as such as by the way procedures are made accessible to others. The authors as well as all others involved in the realisation of this book deserve our respect for their achievement.

Information:

Nederlandse Noma Stichting, Haven 8,
9084 BD Goutum.

Website:

www.noma.nl

A badly conducted operation will diminish chances of success in a second attempt



Noma patient

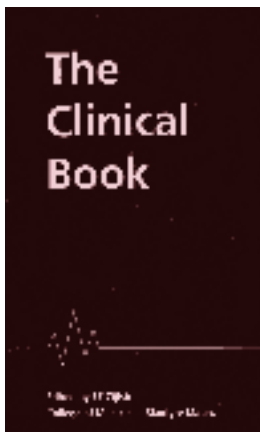


The same patient after reconstruction of cheek and lip

photo: R. Voorhoeve

BY ADRIAAN GROEN

Urgently Wanted:
Sponsor for the reprint of a very useful medical book: The Clinical Book



E.E. Zijlstra et al.
Pocketsize, 237 pages
Published by the Department of Medicine, College of Medicine, Blantyre, Malawi
 Distributed free of charge through Malawi
 In short supply available from Dr Pieter van Thiel, Tropicentrum AMC
 (p.p.vanthiel@amc.uva.nl)

It is called the Clinical Book. What else? And it fits. In the pocket of a doctor's coat, I mean.

Through contributions of some 23 specialists of various nationalities and with financial support from help-organization ICCO and Glaxo-Smith-Kline pharmaceuticals, Dr. Ed Zijlstra developed a very handy booklet for physicians. It is meant for a quick reference on the diagnosis and management of 27 conditions common in medical wards of sub-Saharan hospitals.

The booklet consists of two parts. Part I (90 pages) deals with history taking and physical examination. It does so in great detail and schematically, starting with observations and general impression, measuring vital signs and then examining the whole body from head to toes, not bypassing the nervous system. Every part (general, head and neck, chest, etc.) is followed by a few pages with explanatory notes, mentioning e.g. the measurement of Jugular Vein Pressure with a brief indication what conditions to think of when it is

too low or too high. Normal heartsounds are discussed and where to hear them best, but also the various abnormalities and murmurs are described, followed by a possible diagnosis. This first part of the book ends with a few clinical cases and advice on how to present a patient during the big round or at meetings.

In Part II guidelines are given for the diagnosis and management of the various clinical conditions. It starts with severe Malaria (in adults only; childhood illnesses are not discussed), going in well-organized fashion through Diabetic Coma, Asthma exacerbations, seizures, ascites, upper gastro-intestinal haemorrhage, poisoning, septicaemia, HIV-linked diseases, etc. Some chapters have flow charts for the management of disease, some have helpful tables like the ones on interpretation of CSF-findings and examination of ascites fluid. As to the latter I was surprised to read that there is no limit to the volume to be tapped in case of breathlessness. Many physicians are of a different opinion.

Another remarkable thing in the booklet was the chapter on palliative care, still a bit of a non-discussable topic in sub-Saharan Africa. This chapter gives advice on the management of pain in untreatable disease (at the same time reckoning with myths on the use of morphine) and tips on the relief of terminal stage symptoms like hiccups, intractable cough, excessive bronchial secretion, pruritis and so on. The final pages are dedicated to a protocol for chest drainage, the WHO clinical staging for HIV, examples of in-patients sheets and literature.

In short, this booklet is a must for medical students and a great help for medical doctors working in larger hospitals in Africa. The part on history taking and physical examination may very well be used for bedside teaching of anyone ranging from Clinical Officers to (Assistant) Medical Officers. Because of the limited possibilities of laboratories and X-ray departments in District Hospitals, the clinical guidelines in part II cannot be used to their full extent. I somehow missed a register with keywords, making it a bit difficult to find one's way in the first few days of use, but that drawback is easily overcome by consulting it frequently. Which I do.

There is another problem with this book, however, and that concerns the availability. Of the first edition of 3000 copies more than 2500 have already been distributed, mainly in Malawi. The remaining copies will have gone soon and unless a good Samaritan in the form of a sponsor for the second and maybe third edition appears, a lot of clinicians in sub-Saharan hospitals will have to do without this excellent book.



This booklet is a must for medical students in sub-Saharan hospitals

Remarkable is the chapter on Palliative Care, dealing a.o. with the management of pain in untreatable diseases and reckoning with myths on the use of morphine

There is a problem, however...

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The Editors



MT

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Closing date for the coming edition: March 5 2008

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Treasurer, secretariat and customer services
President: M. Boeree
Secretary: G. van Etten
PO Box 176,
7400 AD Deventer
Tel/fax: 0031(0)570670010
E-mail: nvtg@xs4all.nl
www.nvtg.org