



Oxygenate yourselves! -The Hyperbaric Centre Magazine

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In 2010 the Hyperbaric Centre of Ravenna started a new experience with the blog www.iperbaricoravennablog.it. The aim of the blog was to share the stories of the patients because we believe that the solution to the problem of one person is the solution to the problem of so many others.

This experience led to "Oxygenate yourselves!", The blog magazine of the Ravenna Hyperbaric Centre. The magazine is a new tool to read and preserve the most widely read stories. This number contains the articles most-read in January and February 2016.

Enjoy the reading!

Gustavo Garcia tells us about hyperbaric medicine in Mexico

The greatest power of our blog is to create bridges as for doctor and patient that can meet and get in



touch and to create the opportunity to spread awareness regarding the hyperbaric oxygen therapy. For this reason we are proud of all the messages we receive continuously. In particular, few months ago

our blog landed on Mexico coasts. Our follower and friend, Gustavo Garcia Garcia contacted us to ask for information that could be useful to improve

the perception and the general situation of the hyperbaric medicine in Mexico. Therefore, we thought to tell you a bit about his story and his point of view on hyperbaric medicine in his country.

Gustavo was born on the Pacific coast and he fell in love with scuba diving exploring the waters inhabited by a forest of black corals. The scuba diving activity led him to face situations of sub victims of serious accident due to limited knowledge on diving techniques and medicine. Even if Gustavo had heard of hyperbaric chamber, there was no center in the area he lived around Acapulco that offered hyperbaric therapy.

In the 1985, his coach Aldo Torti, suggested him to visit the hyperbaric center of Zagonia. Here Gustavo visited and studied the hyperbaric chambers and he remained amused by their potential. With a great enthusiasm he brought back to Mexico his new knowledge regarding diving accidents and how they could be avoided. However, hyperbaric therapy in Mexico did not concern only scuba divers. Mexico has a sad primacy: the highest child obesity rate in the whole world. The obesity issue is not so different among adults and the cases of diabetes concern the largest part of the population and the World Health Organization (WHO) estimates 14 million people affected by diabetes.

During his research in Mexico, Gustavo came across the blog of the Hyperbaric Center of Ravenna and he decided to reach out to Dr. Longobardi to deepen his own knowledge in hyperbaric therapy. Thanks also to the statistics provided by our center, Gustavo could have a comparison reference to present to the Ministry of Health of Puebla region his project of promotion and adoption by the National Health Services of the hyperbaric medicine. Gustavo believes that the hyperbaric oxygen therapy can lead to a reduction in the number of amputation surgeries that every year are reported to be 75.000 in Mexico.

We asked Gustavo to tell us about hyperbaric medicine in Mexico today. It turned out to be a very unequal situation with huge differences between people that can afford private treatments in USA facilities and people that are treated in non-professional facilities. These non-professional chambers are said by Gustavo to have “great manufacturing defects because they are created by people that do not even have a slight knowledge on how to make a hyperbaric chamber. They are made by the companies that produce trucks tanks and gas cylinders or by any improvised welder. They are certified with ISO and other quality certification but they are really only pressure cookers”. For this reason Gustavo decided to commit to make all the providers of oxygen-therapy services to align with regulations, to meet hyperbaric chambers safety standards and to guarantee the access to hyperbaric medicine also to those who can't afford private health. Gustavo thanks us for the information he could access through our blog and in his greeting we read “Thanks to all of you who make of the hyperbaric chamber a dispenser of smiles, wellness and health”.

We are proud to have helped Gustavo in his battle for the regulation of hyperbaric chambers and the right to access to the therapy to everyone. And once more we send Gustavo our best wishes for the success of his project. Good luck with your work! We look forward to have news from you soon among the pages of our blog.



Myocardial bone: what it is



Good evening,

today I did x-rays to spine sacred coccygeal and x-rays to right hip. This was the result: sclerosis of the acetabular roof, plausible outcomes bone infarction in the trochanteric bilaterally.

Can you explain what that means?

Thankyou,

Maria Giovanna

Dr. Claudia Rastelli responds



Good morning Mrs. Maria Giovanna,

thanks for contacting us.

From the examination report you wrote here, it looks like what could be the outcome of an osteonecrosis of the femoral heads. However, if I don't see the radiographic images, it is difficult to give a precise opinion. The sclerosis of the acetabular roof is basically a bone callus due to chronic trauma of the articulation which lead to a “hardening”, provoking pain.

I suggest you perform an MRI of the hips to investigate deeply the situation of osteonecrosis and to make sure the bone edema that characterizes it is not present. Then it is good to go on with an orthopaedic consultation. The Hyperbaric Center of Ravenna treat bone infarction in its active phase with hyperbaric oxygen therapy.

Regarding the sclerosis of the acetabular roof or any other joint problems, at our center you can be evaluated by Dr. Fontana who could give you

rehabilitation tips, assess the posture and the plantar support to improve your general condition and perform a rehabilitation program with our osteopath or with our physiotherapists.

For more information feel free to contact us at 0544.500152 or segreteria@iperbaricoravenna.it

I give my best wishes,

Dr. Claudia Rastelli

Degree in Medicine and Surgery at the University of Florence

Surgical wound at the right leg, here's how it can be treated at the Difficult Wounds Care Center



Good morning,

on November 6th my mother underwent a surgery for grafting of four coronary bypass with a extraction of blood from saphenous vein in her right leg. The problem is that where the stitches at the right leg have been removed, she has a hole that is not healing. This wound requires a daily treatment and gives her pain and problems to her gait. Currently, she doesn't have infections and she will be dismissed in three days. The doctors told me she will have to go on with medications.

Since we are not seeing improvements and she is even worsening, I wanted to know if it is too soon or if we can already evaluate alternative treatments to ease her recovery.

Thank you for any tips.

Best wishes,

Alessandro

KlaridaHoxha, nursing coordinator, responds

Dear Alessandro,



Thank you for contacting us, I am really sorry for your mother situation. The causes of dehiscence of surgical wound may be various: the infection of the surgical site, even without superficial signs, blood circulation, presence of other pathologies, etc.

A more accurate assessment would be appropriate to determine the most suitable treatment. At the Difficult Wound Care Center located at the Hyperbaric Centre of Ravenna we do specific treatments for these kind of situations. During the first visit we evaluate different things: the circulatory situation, the presence of additional disease, the pain framework and the wound itself (how it looks like, how deep it is any undermining and presence of exudate).

It is important to note all the parameters: the hemoglobin (Hb), blood glucose (HGT), blood pressure, the index of Winsor (ABI pressure difference arm/ankle), transcutaneous oximetry (TcPO₂), the flow-metry Doppler laser (LDF) for evaluating the microcirculation, the production of nitrogen monoxide by means of the assessment of endothelial function (predictive index of success of hyperbaric therapy) and the presence of peripheral neuropathy. Based on what we find, we choose the most appropriate treatment for the person.

Even the choice of medications has its own importance and depending on how the wound looks it is essential to choose the right medication. At the hyperbaric centre we also use bandages medicated with zinc and coumarin with anti-edema effect in the case the swells should arise. Alternatively, we may propose bandages with zinc and ichthyol with anti-inflammatory effect.

The bandage and the choice of the type of bandage to be used are essential to obtain a

positive outcome since they improve the circulation so more oxygenated blood irrigates the wound. If all these treatments fail to give us the expected results in the first four weeks, we opt for another therapy, such as the platelet rich plasma (PRP), allograft through bio-engineered skin and hyperbaric oxygen therapy (HBOT).

For cases like that of your mother, with a deep wound, a method that can speed up the wound filling process and its healing, it's the use of a device called Negative Pressure Therapy (NPT). This method vacuum the wound and aspires continuously, allowing to absorb the exudate in excess. In this way it lets more blood getting to the wound, which would therefore receive more oxygen.

All these treatments can be done at our center. If you wish, you can book a first visit at the phone number 0544/500152, or by email to segreteria@iperbaricoravenna.it.

I send you my best regards,

Klarida Hoxha

Aseptic bilateral osteonecrosis of the femoral head, what can be



done?

Hello,

Since this summer I have been suffering of bilateral osteonecrosis of the femoral head, more pronounced on the left side.

The pain appeared suddenly, and before doing the MRI to find out the reasons, I let four months passed before going to an orthopaedist. The orthopaedist wants me to undergo surgery. I wanted to know if with the hyperbaric oxygen therapy it is possible to heal without going under the scalpel. Additionally, I live in Naples, can you kindly indicate a center in this area where I can do this type of therapy? I saw that there is a center in Acerra and another one in Caserta. I wanted to ask you if you know these centers, if they do the therapy and if it is borne by the National Health Service.

Thanks for the attention. Kind regards,

Tommaso

Dr. Andrea Galvani responds



Good morning Tommaso,

thank you for writing us. Without an analysis of the available clinical documentation and without careful medical examination it is very difficult to answer precisely to your question. For this reason I am going to answer you in general term, describing the treatments for aseptic osteonecrosis active at the Hyperbaric Center of Ravenna. However, I remain available if you wish to send me your medical examination reports.

The essential criteria to do an attempt with Hyperbaric Oxygen Therapy (HOT) is the assessment of the extent of the problem (1-2a and 2B Ficat stadium, stadium 1-2 Steinberg: evaluable with RX and MRI during the first visit).

Eventually the HOT will be composed by 30 sessions at 2/2,5 bar of pressure, with a length of 90 minutes time and a daily frequency for five days a week. The MRI for a follow-up will be done 60 days after the end of the treatment. At our centre, the patients with aseptic osteonecrosis are visited even by fellow physiatrist who evaluate all the rehabilitative and pharmacological supportive aspects.

Regarding the last part of your question, I can say that yes, there are several hyperbaric centers in Campania! (Naples, Caserta).

I hope I gave you the information you needed. If you want to send us your medical documentation or arrange a visit, you can contact our office at segreteria@iperbaricoravenna.it or at the number 0544 500152. I remain available for any questions or concerns.

Best wishes,

Dr. Andrea Galvani

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Ulcer Achilles tendon



I am 73 years old and in the last 15 years I have been suffering from diabetes mellitus with glucose values average 150/170. I'm treating it with Metforal 500 and Diamicran 60mg. Since 7 months ago I have a dystrophic ulcer in my right foot, with unleashed Achilles tendon that I'm trying to cure with medications of Fisian plus and Fitostimolina.

I have severe pain that spread from the wound to the knee, the foot is very swollen and I have difficulty walking. What do you recommend?

Donato

Nicola Fusetti, nurse, responds



Dear Donato,

thank you for the interest you show for our center.

I understand it can be difficult for you to live a situation that, in addition to the pain, limits your mobility and your autonomy. I suggests you, as a first assessment, to perform a Doppler ultrasound test of the lower limbs, both venous and arterial, and possibly to be visited by a vascular surgeon.

From what I read, you may have to reconsider your diabetic therapy ,because the blood glucose levels tend to be higher, even if you are taking this oral hypoglycemic therapy. Being the foot very swollen, it is likely that there is an infection in progress and you should take specific antibiotics and perform a surgical visit to assess whether surgical cleaning of the foot is needed.

At the Difficult Wounds Care Center of the Hyperbaric Center of Ravenna we are able to assess the wound already during the first visit by adopting a very effective defined treatment process taking advantage of non-invasive tests.

These tests include an evaluation of specific vascularization indices in order to understand the tissue perfusion status, a Doppler ultrasound test of the limbs, an ultrasound of soft tissue to study the condition of the tendon and surrounding tissues and one telethermography test to verify the degree of infection and vascularity of the part.

Once we have this information we can set up a customized therapy that takes into account the patient's problems. The treatment will associate functional bandages to reduce limb edema, advanced medications and hyperbaric oxygen therapy with antibacterial and anti-inflammatory function.

For the full recovery it is essential to immobilize the suffering area not to stress or solicit the healing tissues. The immobilization will be done through a pinstripe valve and an appropriate footwear.

I hope I was helpful, if you want more information or to make an appointment you can contact us at the number 0544/500152.

Best wishes,

Fusetti Nicola

Going back to dive after two little infarcts



Dear DiveDoc

Cause of admission: intense retrosternal pain radiating to the left arm. ECG resulted in modest alterations of the phase of ventricular repolarization and increase of myocardium cytolysis enzymes.

Summary of the clinical course: entrance with patient in the CCU, the patient was in good circular compensation but still modestly symptomatic for angina.

For this reason it was urgently performed coronary angiography resulted in stent on CDX and moderate stenosis of the stent of VAT (I had a small stroke 10 years ago for which I already asked your opinion). In the absence of clinical complications and positive results, it was performed a myocardial revascularisation by PTCA with placement of drug-eluting stents on CDX.

During the hospitalization the patient was always asymptomatic and in good circular compensation.

The echocardiogram revealed no dilated ventricles and normal systolic function in the absence of CINESI SEGMENTARIA, transmitral pattern pseudonormal and modest mitral insufficiency.

There was an enzyme peak of troponin "I" HS 9799 pg/ml; CPK-MB 28 ng/ml; CPK 358 U/l. The other blood tests were within the limits. Discharged asymptomatic and in good physical condition. ECG for disposal: sinus bradycardia FC 45 beats/min; negative T wave in the bottom.

To re-evaluate myocardial scintigraphy x residual stenosis revascularization of VAT at next opportunity. To make it short ... do you think you can go back to bubble?

Renato M.I. FIAS Sec. Novara

Dr. Luigi Santarella responds



Dear Renato

Thank you for your trust. The continuous improvements in medical care and management of subjects who experienced acute coronary syndrome have achieved the highest standards. So that they allow, once clinically resolved and stabilized the acute episode and after an appropriate period of convalescence, to go back to recreational diving activities.

All this clearly as a result of proper cardiac monitoring to exclude heart failure, angina pectoris, arrhythmias, anomalies in the stress test and suitability to scuba diving.

Another important element along with the specific therapies, is to reduce modifiable risk factors through improved lifestyle. In your specific case, not having you specified when the stroke happened and having residual stenosis of the anterior descending branch of the left coronary artery not fully investigated, I assume that you are still in a period of convalescence. If this is correct, I suggest you to proceed with diagnostic tests as prescribed by cardiologists, until you are sure about any ischemic deficit residues.

Once you are done with investigations, according to your cardiologist and with the recommendations of the European Diving Technology Committee (EDTC), you will have to undergo to an echocardiogram stress test (no later than 30 days before the date of your diving suitability visit). The examination should include ECG with assessment of Metabolic Equivalent Tasks (METS) and echocardiography. If the test would highlight only the outcomes of previous acute coronary

syndromes without further ischemic deficit, then you can contact a center specialized in hyperbaric medicine and diving to schedule the visit for suitability in scuba diving activity.

If you need further information please contact our office at 0544- 500 152 or email segreteria@iperbaricoravenna.it.

Best wishes, Dr. Luigi Santarella

Degree in Medicine and Surgery at the University Alma Mater Studiorum of Bologna.

Rebel venous ulcer below the knee



Good morning

I am a young Sicilian. I'm supporting my mother to face her illness: the presence of rebel varicose ulcer in her leg below the knee. My mother also has a form of psoriasis.

Is there any remedy for this kind of ulcer? Is there a specialized center here in Sicily that or is there the opportunity to make a visit at your center? The movement of my mother would be difficult but not impossible.

Thank you in advance and look forward to your response.

Alberto

Serena Giannini, nurse, responds



Carissimo Dear Alberto,

I understand your concern for your mother, who cannot find a remedy to this uncomfortable situation, since a wound that does not heal easily is always an obstacle to daily life habit.

A venous ulcer complicated by the psoriasis has to be treated with a personalised therapy, taking into account various aspects. It is necessary to evaluate the wound with a first observation, with a diagnostic to have reliable data and investigate accurately your mother medical history in order to have details of your situation.

Surely, a Doppler ultrasound of the arteriovenous limb may be useful to make sure that the ulcer has as only risk factor the venous aspect and not arterial or mixed. This will allow to define the best bandage to be packaged for the treatment, which is essential for the healing of a wound, especially if of venous origin. For what concern the ideal medication, we need to observe how the wound looks like, meaning the tissue of the ulcer itself and the surrounding skin. The following step is to study the most suitable medication: considering potential allergies or intolerances to the main active substances.

I do understand the problematics of travelling to come to visit our center, however if you decide to embark on the journey we would be happy to evaluate with you the most adequate treatment in the fastest time. There are many people that visit our center from Sicily and rely on our treatments. In the first visit you will meet a professional team of doctors and nurses which will investigate your mother's problem from all the different point of view: vascular, pain, pathologic etc.

It is also possible to take an arteriovenous Doppler ultrasound if you haven't done any recently (6 months old maximum). You can schedule an appointment by calling 0544500152 or by writing an email to segreteria@iperbaricoravenna.it.

Our office will be glad to find a convenient day for you, since we understand that the distance may reduce the flexibility.

I am confident that we will find the correct treatment for this painful wound. I look forward to meet you at our center.

Serena Giannini



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