**Literatuur abstracts Paget Schroetter door assemblagewerk**

O'Keefe S1, Carmody KA. **Paget-Schrötter syndrome diagnosed by bedside emergency physician performed ultrasound: a case report.** J Emerg Med. 2013 Jul;45(1):74-7

BACKGROUND: Paget-Schrötter syndrome, or an upper-extremity deep venous thrombosis (UEDVT), occurs in young people after strenuous repetitive activity involving the upper extremity. The long-term morbidity and mortality of this condition is similar to the effects of lower-extremity DVT and therefore, its early diagnosis and treatment are essential.
OBJECTIVES: This case report describes Paget-Schrötter syndrome (effort thrombosis) diagnosed at the bedside by Emergency Physician performed ultrasound.
CASE REPORT: This is a case report of an uncommon but potentially dangerous disease that carries high morbidity if not diagnosed and treated early. Emergency Physicians should be aware of this condition in any young patient who presents with upper-extremity complaints with a history of repetitive use. Although the role of ultrasound in the diagnosis of lower-extremity DVT is well described, this case report is unique because it illustrates the diagnosis of Paget-Schrötter syndrome completed at the bedside.
CONCLUSION: This article presents the case and discusses the incidence, potential causes, predisposing factors, diagnostic modalities, and the course of treatment for this particular diagnosis.

Drakos N1, Gausche-Hill M. **A case report: a young waiter with Paget-Schrötter syndrome.** J Emerg Med. 2013 Mar;44(3):e291-4

BACKGROUND: Paget-Schrötter syndrome (PSS) is a rare presentation of primary axillary subclavian vein thrombosis that classically occurs in young men with a degree of underlying thoracic outlet syndrome after a period of upper extremity exertion. The primary complication of PSS is post-thrombotic syndrome, a result of chronic venous hypertension.
OBJECTIVES: To educate Emergency Physicians on this condition to potentiate timely diagnosis and appropriate disposition.
CASE REPORT: A 29-year-old right-handed restaurant waiter presented with 3 days of non-painful, gradual-onset right upper extremity swelling with normal vital signs. The patient's history was otherwise notable for subjective fevers and a right forearm abrasion. Upon examination, the right upper extremity was neurovascularly intact and remarkable for uniform edema and erythema extending distally from the level of the mid-humerus. The primary differential diagnoses were deep venous thrombosis (DVT) vs. soft tissue infection. Venous phase contrast computed tomography did not reveal evidence of underlying soft tissue infection and was inconclusive regarding a DVT. Ultrasound demonstrated a right subclavian vein DVT. The patient was admitted and underwent thrombolysis, venolysis, and first rib resection and initiation of warfarin.
CONCLUSION: PSS is a rare presentation of upper-extremity DVT occurring classically in patients without commonly recognized pro-thrombotic risk factors. PSS carries the potential of significant morbidity in the form of post-thrombotic syndrome and pulmonary embolism. Current literature suggests that optimal outcomes are achieved when treatment is initiated within 6 weeks of onset. The treatment paradigm calls for thrombolysis and, frequently, a first rib resection.

Pysklywec M1, Cina CS. **Work-related effort thrombosis in a millwright: a case report.** Am J Ind Med. 2011 Mar;54(3):244-7

BACKGROUND: Effort thrombosis refers to axillosubclavian vein thrombosis secondary to physical activities of the upper extremity.
METHODS: This report describes the clinical presentation of effort thrombosis in a millwright and reviews the literature for occupational reports of this condition.
RESULTS: While there is a paucity of literature reporting an occupational association, work related physical demands on the upper extremity appears to increase the risk of axillosubclavian impingement and thrombosis in certain patients.
CONCLUSION: Effort thrombosis is a rare vascular condition of the upper extremity that may be seen in workers with repetitive, forceful, or overhead arm activities.

Ozçakar L1, Dönmez G, Yörübulut M, Aydog ST, Demirel H, Pasaoglu I, Doral MN. **Paget-Schrötter syndrome forerunning the diagnoses of thoracic outlet syndrome and thrombophilia.** Clin Appl Thromb Hemost. 2010 Jun;16(3):351-5

Abstract: Reported here is a 22-year-old professional wrestler who was diagnosed to have Paget-Schrötter syndrome after Greco-Roman wrestling. On substantial neuromuscular examination and laboratory testing, he was found to have also thoracic outlet syndrome and heterozygous mutations for factor V Leiden and methyltetrahydrofolate reductase genes. To the best knowledge of the authors, the concomitance of these pathologies is discussed for the first time in the literature.

Liang HW1, Su TC, Hwang BS, Hung MH. **Effort thrombosis of the upper extremities related to an arm stretching exercise.** J Formos Med Assoc. 2006 Feb;105(2):182-6

Abstract: "Effort" axillary-subclavian vein thrombosis (Paget-Schrötter syndrome) is an uncommon deep venous thrombosis due to repetitive activity of the upper limbs. Most cases of this condition are related to strenuous or prolonged sport or occupational activities, while others are associated with endogenous or exogenous risk factors. We report the case of a 43-year-old, previously healthy, male who developed right axillary-subclavian venous thrombosis, which was possibly associated with an exercise involving arm extension and shaking in a posture of shoulder abduction and outstretched for 10 minutes on 2 consecutive days. The condition improved but returned with increased severity when he resumed the exercise after a 2-day break, when he presented with a swollen and bluish arm at the emergency department. Sonographic examination showed moderate thrombotic stenosis of the right axillary vein. Effort thrombosis was diagnosed after ruling out associated coagulopathy or concomitant malignancy. External compression of the accessory ribs or lymph nodes were not detected. He was treated with low molecular weight heparin, followed by oral anticoagulant therapy for 6 months. Only partial resolution of thrombosis was achieved after 6 months of anticoagulant therapy, but pulmonary embolism did not occur during 18 months of follow-up. This case illustrates that, although unusual, Paget-Schrötter syndrome can occur in a healthy patient as a result of mild to moderate exercise.

Vijaysadan V1, Zimmerman AM, Pajaro RE. **Paget-Schrötter syndrome in the young and active.** J Am Board Fam Pract. 2005 Jul-Aug;18(4):314-9.

Abstract: We report this case of effort thrombosis of the upper extremity (Paget-Schrötter syndrome) caused by hypertrophied muscles. This unusual cause of extrinsic venous compression and intimal injury leading to thrombosis was treated uniquely with good outcome. Untreated symptomatic patients can sustain long-term disability from venous obstruction resulting in significant loss of occupational productivity and quality of life. For the same reason, early catheter directed thrombolysis followed by anticoagulation and surgical intervention are recommended in much of the recent literature. Thrombolysis is the most common form of treatment, followed by surgery, if needed, after careful diagnostic approach. A majority of the literature supports a multimodal approach, but there is no definite consensus on management. This highlights the need for randomized clinical trials to guide management as well as to assess the safety and efficacy of anticoagulants commonly used and to define the optimal duration of therapy after thrombolysis.

Zell L1, Scheffler P, Heger M, Steuckardt-Götz A, Buchter A **The Paget-Schrötter syndrome: work accident and occupational disease**. Ann Acad Med Singapore. 2001 Sep;30(5):481-4.

INTRODUCTION: Primary thrombosis of the upper extremity (Paget-Schrötter syndrome, effort thrombosis) is usually not accepted either as a work-related accident or an occupational disease by the industrial injuries insurance authorities. This study aims to look at the circumstances under which this kind of thrombosis may be recognised as an occupational hazard.
MATERIALS AND METHODS: After thoroughly studying the clinical records of 82 patients with thrombosis of the upper extremity in the outpatient department for angiology during a 10-year period, we found that in 51 cases the thrombosis was caused by secondary reasons (i.e., central venous catheterisation, malignoma, hypercoagulability, postoperative). In the remaining 31 patients, we painstakingly conducted a general and occupational history and further clinical, laboratory or technical investigations to differentiate the aetiology.
RESULTS: Twenty-eight of 31 patients with suspected primary thrombosis of the axillary or subclavian vein (Paget-Schrötter syndrome) showed unusual private or occupational physical exercise as the underlying cause. Sixteen patients reported only short physical exercise up to several hours or acute trauma. Longer physical exercise periods (several days, months or even more) were found in 12 patients. Ten of the 28 patients who acquired the thrombosis doing occupational tasks covered by the industrial insurance, may be eligible for compensation. In 4 of these 10 insured cases, we found strong hints for work accidents, 6 patients of this group apparently revealed criteria of occupational diseases. Four of the 28 patients had a combination of physical effort and additional thrombogenic risk factors (cardiac pacemaker, hypercoagulability).
CONCLUSION: Primary thrombosis of the upper extremity (Paget-Schrötter syndrome) should be announced to and compensated by the industrial injuries insurance either as work-related accident or occupational disease if the patient's occupational history shows close relationship between thrombosis manifestation and extraordinary physical efforts or exercises during occupational strains. For this reason, we recommend the recognition of the Paget-Schrötter syndrome in the national list of occupational diseases.

Zell L1, Scheffler P, Heger M, Buchter A. [**Paget-von Schroetter syndrome as an occupational Accent**].[Artikel in German] Dötsch Med. Wochenschrift. 2001 Mar 23;126(12):326-8

HISTORY AND CLINICAL FINDINGS: Two men and one woman developed typical symptoms of a thrombosis in the arms after unusual physical effort at their work place (a coal miner after a bad fall, a radiographer after having to catch a patient, a painter after jerkily moving a heavy piece of furniture).
INVESTIGATIONS AND DIAGNOSIS: In all three patients a thrombosis of the subclavian vein was demonstrated by duplex scans or phlebography. In two patients tests for hypercoagulability were unremarkable. None of the patients had a thoracic outlet syndrome.
TREATMENT AND COURSE: After initial local thrombolytic or heparin therapy alone, phenprocoumon treatment over several months was given in two cases, and in one case low-molecular-weight heparin was administered over several months. All three patients complained of strain-related residual symptoms in the affected arm (pain, swelling, easy fatigability). In all three cases, the accident insurer recognized the incident to be a work-related accident.
CONCLUSION: Patients with a Paget-Schrötter syndrome resulting from a sudden and unusual physical effort at work, which is covered by statutory accident insurance, must be reported to the accident insurer as a work-related accident in order to safeguard individual medical claims of the patient and for general medical and epidemiological reasons.

Fiorentini C, Mattioli S, Graziosi F, Bonfiglioli R, Armstrong TJ, Violante FS. **Occupational relevance of subclavian vein thrombosis in association with thoracic outlet syndrome**. Scand J Work Environ Health. 2005 Apr;31(2):160-3

OBJECTIVES: Primary subclavian vein thrombosis ("effort thrombosis") is not generally recognized as a work-related disorder, and more knowledge is required on the particular biomechanical risks. An extensive biomechanical risk analysis was performed for a possible work-related case.

CASE REPORT: A hard-working 43-year-old race-course farrier received successful surgical treatment for subclavian vein thrombosis. No congenital abnormalities were apparent. At work, the farrier spent 75% of his time with his back bent (generally at > 70 degrees) with his right shoulder flexed and abducted, a position that thereby increased the pressure on the subclavian vein. High average (and peak) stress ratings for the neck and shoulder postures are accompanied by high levels of force and considerable repetitiveness.

CONCLUSIONS: Taken together, these forms of biomechanical overload suggest that the leading cause of the subclavian thrombosis suffered by this farrier could have been occupational. Case-control studies on this neglected topic are needed to investigate possible associations between subclavian vein thrombosis and specific occupational activities.

Jagathesan T, Houston SJ, Evans AD**. Axillary vein thrombosis and congenital dysfibrinogenemia in a commercial pilot: a case report**. Aviat Space Environ Med. 2003 Sep;74(9):981-4.

Abstract: A 34-yr-old male commercial pilot developed a painful swollen right upper arm following an episode of trauma. Venography confirmed the clinical diagnosis of a right axillary deep venous thrombosis. Magnetic resonance imaging suggested the presence of a fibrous tissue band overlying the junction of the right subclavian and innominate veins, potentially creating a thoracic outlet syndrome. A thrombophilia screen revealed an abnormal fibrinogen variant consistent with a diagnosis of congenital dysfibrinogenemia. The pilot was treated with anticoagulant therapy for 4 mo. There were diagnostic difficulties in determining the definitive etiology of the axillary vein thrombosis. Congenital dysfibrinogenemia is a rare condition, which is asymptomatic in the majority, but may manifest with hemorrhage or thrombosis in up to 45% of cases. The clinical management of the pilot and the aeromedical implications of the diagnosis are discussed.

Pratikto TH, Zwetschke V, Goyen M, Kröger K. **Recurrent exercise induced subclavian vein thrombosis in a conductor**. Vasa. 2002 Aug;31(3):209-11

Abstract: We present a case of a young male patient with recurrent subclavian vein thrombosis due to conducting after prior successful thrombolytic therapy. Musculoskeletal problems are common among musicians. A thoracic outlet syndrome associated to a profession induced thrombosis in a musician has not been described before. Surgical removal of the first rip can prevent recurrent thrombotic occlusion of the subclavian vein, but was not performed in this patient. Considering the specific situation of a young musician there is no information whether surgical or conservative treatment is suitable to allow a successful career as an active musician.