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فحص اليد ومفصل الرسغ بالموجات فوق الصوتية

رسالة

توطئة للحصول على درجة الماجستير

في الأشعة التشخيصية

مقدمه من

الطبيب / خالد علي محمد

بكالوريوس الطب والجراحة

تحت إشراف

د. محمد أبو الهدى درويش

أستاذ الأشعة التشخيصية المساعد

كلية الطب - جامعة عين شمس

كلية الطب

جامعة عين شمس

١٩٩٦

المخلص باللغة العربية

تعتبر القدرة على التشخيص بالموجات فوق الصوتية لحالات الجهاز العضلي العظمى فى تقدم ملحوظ خلال السنوات الأخيرة كما أن الموجات فوق الصوتية تعتبر الطريقة المثالية لفحص الأنسجة الرخوة •

كما أن الموجات فوق الصوتية تعتبر وسيلة آمنة ولا تعرض المريض للأشعاعات المؤينة مما يجعلها مقبولة من معظم المرضى وخاصة الأطفال •

وتستخدم الموجات الصوتية للتعرف على تمزق العضلات والأوتار وما يترتب عليها ويلزم لذلك عمل الفحص مع ارتخاء وانقباض العضلات •

أيضا فإن الموجات فوق الصوتية تلعب دوراً هاماً فى تشخيص وتحديد نوع الأكياس الزلالية التى تظهر غالباً حول الرسغ وتشخيص بعض الأورام الناتجة من الأعصاب الطرفية وفى عرض الضغط على العصب الأوسط الذى يمر على الرسغ •

وفى مجال مرض الروماتويد المفصلى فى الكف تلعب الموجات الصوتية دوراً مميزاً وخصوصاً فى الحالات التى تعاني من ارتشاح مائي داخل غلاف الأوتار •



<i>Arabic Summary</i>	

Wolfgang Buchberger: University of Architecture carpal tunnel syndrome: diagnosis with high resolution sonography. A.J.R., Am. (159(4): 793-798. October, 1992.

- Swanson, A.B.*, (1983): Disabling arthritis of the base of the thumb treatment by resection of the trapezium and flexible (silicone) implant arthroplasty. *J. Bone Joint Surg.*, 54A, p. 456.
- Swanson, A.B.*: Pathomechanics of deformities in hand and wrist. In : "Rehabilitation of the hand" ed. by Hunter. J. A. Schneider, L.H.; Mackin, E.J. and Callahan, A.D., 2nd edition. C.V. Mosby Company, p. 630, 1984.
- Taylor, K.J.W. and Kill, C.R.*: Scanning techniques in gray scale ultrasonography. *british Journal of Radiology*, 48: 918-920.
- Van Holsbeeck, M. and Introcaso, J.H.*: Musculoskeletal ultrasound. Mosby Year Book, St. Louis, 1991.
- Verow, P.W. and Dippy, J.* : Soft tissue change in early R.A. as seen on xeroradiography and non-screen radiographys. *Clin. Radiol.* 29(1978), 585.
- Warwick, R. and Williams, P.L.*: Arthrology: in "Gray's anatomy 35th edition Longman, Ltd. P. 434, 1983.
- Werner, Judmoier*: University of Innsbruck, 6020 innsbruck, Austria. *AJR Am.*, (159(4) 793-798, October, 1992.
- Weston, W.; jand Plamer, D.G.*: Soft tissue of the extremities. A radiologic sutdy of rheumatoid disease springer Verlag, Berlin, 1978.
- Wicks, J.D.; Silver, T.M.; Bree, R.L.*: Gray scale features of hematomas: An ultrasonic spectrum. *A.J.R.*, 131: 977, 1987.

joint disease in children. *Rheum. Dis. Clin. North Am.*, 1987, 13: 57-73.

Ranawat, C.S. and Straub, L.R.: Volar tenosynovitis of wrist in rheumatoid arthritis. *Arth. Rheum.* 13, p. 112, 1980.

Rietz, K.A.; onno, L.: Analysis of sixty two operated cases of carpal tunnel syndorme. *Eur. J. Srug*, 1987, 133: 443 - 447.

Ropes, M.W.: Revision of diagnostic criteria for R.A. *Ann. Rheum. Dis.*, 18(1979), 49.

Ross, F.G.M.: In recent advances in radiology. Churchill Livingstone, Edinburgh.

Ross, C. : The hand in : The musculoskeletal system in health and disease" ed. by Rosse, C. and Clowson, K.; Herper and Rove publisher, p. 227, 1980.

Ross F.: Text book of radiology and maging. Churchill Livingstone, Edinbergh London, Mellbourne, and New York.

Scott, D.L.; Coulton, B.L. and Popert, A.J., (1986): Long term progression of joint damage in rheumatoid arthritis. *Ann. Rheum. Dis.*, 45, p. 373.

Solbiati, L.; DePra L.; Lerace T.: High resolution sonography of recurrent lorrge serve. Anatomic and pathologic considerations. *A.J.R.*, 1985; 145: 989-993.

Sunin, G.D.; Mallon, W.J. and Urraniak, J.R.: Diagnosis of ganglion in Guyon's canal by magnetic resonance imaging. *J. hand Surg.*, 14A, (1989), 640.

- Nalebuff, E.A. and Petter, T.A.:* Rheumatoid involvement of tendons and tendon sheaths in the hand. Clin. Orthop. 59, p. 147.
- Nigst, H.:* Einfuhrung zum Thema "Tumoren der Hand". Handchir. Mikrochir. Plast. Chir. (1984): Suppl. p. I.
- Ogino, T.; Minami, A. and Kato, H.:* Diagnosis of radial nerve palsy caused by ganglion with use of different imaging techniques. J. Hand Surg., 16A, (1991): 230.
- Parry, C.V.W.; Salter, M. and millar, D.:* Rehabilitation of the hand" 3rd edition, Butterworth, and Co. (publishers), ltd., p. 1.
- Phalen, G.S.:* The carpal-tunnel syndrome: clinical evaluation of 598 hands. Clin. Orthop. 1972: 83: 29-40.
- Phalen G.S.:* The carpal tunnel syndrome : seventeen years experience in diagnosis and treatment of six hundred fifty-four hands, J. bone Joint Surg., Am. 1988, 48A: 211-228.
- Phoebe A.; Kaplan, M.D.:* Itrasound of post-traumatic soft tissue lesino. Radiol. Clin. North. Am., 1989, Sep., 27(5): 975-981.
- Potter, T.A.; Kuhns, J.G.:* Rheumatoid tenosynovitis. Diagnosis and treatment. J. Bone joint Surg. 1958, 40A: 1230-5.
- Poznanski, A.K.; Conway, J.J; Shkolnik, A.; Pachman, L.M.:* Radiological approaches in the evaluation of

- Mack, L.A.; Matsen, F.A.; Kilcoyne, R.F. et al.*: Ultrasound evaluation of the rotator cuff. *Radiology*, 157; 205, 1985.
- Makela, P. and Haataja, M.*: Soft tissue radiography for evaluating clinical activity of rheumatoid arthritis. *Acta Radiol. Diagnosis*, 19(1978), 189.
- Mannerfelt, L. and Norman, O.*: Attribution ruptures of flexor tendons in R.A. caused by bony spurs in the carpal tunnel J. Bone, Jt. Surg. 51 B, (1989), 270.
- Margaretha, Hogland, P. tordd, M.D.*: Ganglion diagnosis sonography U/S. *Acta Radiologica*, 35(1994), 37-39.
- Mathieson, J.R.; Connel , D.G.; Cooperberg, P.L. et al. :* Sonography of the Achilles tendon and adjacent bursae. *A.J.R.*, 151: 127, 1988.
- Middleton, W.D.; Knoian J.B.; Kallman, G.M. et al., :* MR imaging of the carpal tunnel : Normal anatomy and preliminary findings in the carpal tunnel syndrome. *AJF.*, 1987, 14B: 307-318.
- Monfred :* Carpal tunnel synd. U/S diagnosis. *AJR, Am.* (199(4)) 793-798, October, 1992.
- Mortha, A.; Norris, M.D.*: U/S of soft tissue. *Radiol. Clin. of North Am.*, 1989, 973-981.
- Muren, C.*: Diagnosis of ganglion in the hand and wrist by sonography. *Acta Radiologica*, 35(1994), Fasc. T., 35-39.

- Jeffrey, R.B.; Laing, F.C.; Schechter, W.P. et al.*: Acute suppurative tenosynovitis of the hand: Diagnosis with ultrasound. *Radiology*. 162; 741, 1987.
- John, M.; Kissane, M.D.*: Cysts of ganglion. *Text Book of pathology*, Vol. 2, 1977, p. 2042.
- Joseph, and Andeson* : U/S of soft tissue lisions. *Radiol. Clin. North Am.*, 1989 Sep., 29(5): 973-981.
- Khaleghian, R.; Tonkin, L.J.*: Ultrasonic examination of the flexor tendons of the fingers. *J. Clin. Ultrasound*, 12, 547, 1984.
- Konitinen, Y.T.; Bergroth, V.; Kunnamo, I.; Hanpannri, I.*: The value of biopsy in patients with monoarticular juvenile rheumatoid arthritis of recent onset. *Arthritis Rheum.* 1986, 29: 47-53.
- Kramer, F.L.; Kurtz, A.B.; Rubin, C. et al.*: Ultrasound appearance of myositis ossificans. *Skeletal radiol.* 4: 19, 1987.
- Last* : Regional and applied anatomy. 5th edition. The English Language Book Society and Churchill Livingstone, Edinburgh and London, 1973.
- Lehto, M.; Alanen, A.*: Healing of a muscle trauma: correlation of sonographical and histological findings in an experimental study in rats. *J. Ultrasound Med.*, 6: 425, 1987.
- Little, C.M.; Parker, M.G.; Callowich, M.C. et al.*: The ultrasonic detection of soft-tissue foreign bodies. *Invest. Radiol.*, 21: 275, 1986.

- Fornage, B.D.; Schernberg, F.L.:* Sonographic diagnosis of foreign bodies of the distal extremities. *AJR*, 147: 567, 1986.
- Fornage, B.D.:* the hypoechoic normal tendon, *Apitfall, J. U.S. Med.*, 1987, 6: 19-22.
- Goldberg, B.B.:* Abdominal Gray Scale ultrasonography, John Wiley, and Sons, New york, 1977.
- Gooding, GAW, hardimon, D.P.; Sumers DPM et al.:* Sonography of the hand and foot in foreign body detection. *J. Ultrasound Med.*, 6: 441, 1987.
- Gooding, G.W.A.:* Tenosynovitis of the wrist. *U.S. Demonstration. J.U.S. Med.*, 1988, 7: 225-226.
- Hakastian, R.W. and Tubiana, R.:* Ulnar deviatio of the fingers; the role of joint structure and function. *J. Bone, Joint Surg.*, 49A, p. 299., 1977.
- Harkin, j.c.; Seed, R.J.:* Tumors of the peripheral nervous system. In : *Firminger, H.I.; Ed. Atlas of tumor pathology. Washington, D.C.: Armed Forces institute of pathology. 1969, 29-59.*
- Harrison, M.D.; Freiburger, R.H. and Ranawat, C.S.:* Arthroscopic study of the rheumatoid wrist. *Ann. J. Roentgenol*, 112, 280, 1981.
- Hoddick, W.K.; Callen, P.W.; Filly, R.A.; Mahony, B.S.; Edwerds, M.B.:* Ultrasound ultrasonographic appearance of a solid schwannoma. *J.C.U.*, 1982: 10: 243-245.

- Fornage, B.D.; Rifkin, M.D.:* Ultrasound examination of the hand and foot. Radiol. Clin. North. Am. 1989, Sep. 27(5): 973-981.
- Fornage, B.D.; Schernberg, F.L.; Rifkin, M.D.:* Ultrasound examination of the hand. Radiology, 1985, 155: 785-8.
- Fornage, B.D.; Tuche, D.H.; Segal, P.; Rifkin, M.D.:* ultrasonography in the evaluation of muscular trauma, j. ultrasound med., 1983, 2: 549-54.
- Fornage, B.D.:* The hypoechoic normal tendon. A pitfall. J. Ultrasound Med. 1987, 6: 19-22.
- Fornage, B.D.; Rifkin, M.D.:* Ultrasound examination of the hand and foot. Radiol Clin North Am., 1988, 26: 109-129.
- Fornage, B.D.:* Perepheral Nerves of the extromitions. Imaging with US. Andiology, 1988; 187: 179-182.
- Fornage, B.D.:* Achilles tendon : U/S examination. Radiology, 159: 759, 764, 1986.
- Fornage, B.D.:* The hypoechoic normal tendon: A pitfall. J. Ultrasound Med., 6: 19, 1987.
- Fornage, B.D.; Rifkin, M.D.:* Ultrasound examination of ltendons. Radiol Clin. north Am., 26: 87, 1988.
- Fornage, B.D.; Rifkin, M.D.:* Ultrasound examination of the hand and foot. Radiol. Clin North Am. 26: 109, 1988.

REFERENCES

- Anderson, A.A.D.*: Crysts of joints and pera-articular tissue. Text book of pathology, Vol. 2, P. 2041, 1977.
- Angelidis, A.C.*: Ganglions of the hand and wrist. In : Operative hand surgery. P. 2281. Edited by D.P. Green, Churchill Livingstone, New York, 1988.
- Athreya, B.H.*: The hand in juvenile rheumatoid arthritis. *Arthritis Rheum.* 1977: 20: 573-4.
- Auerbach, N.; Bowen, A.*: Sonography of the leg in posterior compartment syndrome. *AJR*, 136: 107, 1981.
- Basmajian, J.A.*: Practical functional anatomy. In "Rehabilitation of the hand", ed. by Huntor, J.A.; Schneider, L.H.; Mackin, E.J. and Callahan, A.D., 2nd edition, C.V. Mosby Company, p. 13. (1984)
- Beckhouse, K.M.*: Tunnel syndrome, *Am. Roy, Coll. Surg., Eng.*, 50: 321, 1972.
- Bernardino, M.E.; Jing, B.S.; Thomas, J.L.; Lindell J.R.M.M.; Zornoza, J.* : The extremity soft tissue lesion: a comparative study of ultrasound, computed tomography, and xeroradiography. *Radiology*, 1981, 139: 53-9.
- Blei, C.L.; Nirschl, R.P.; Grant, E.G.*: Achilles tendon : U/S diagnosis of pathologic conditions. *Radiology*, 159: 765, 1986.

<i>References</i>	

component or pathologic process may not be the same as for another and it is also expensive.

However M.R.I. is proved to be better in diagnosis of carpal tunnel syndrome.