Book Review

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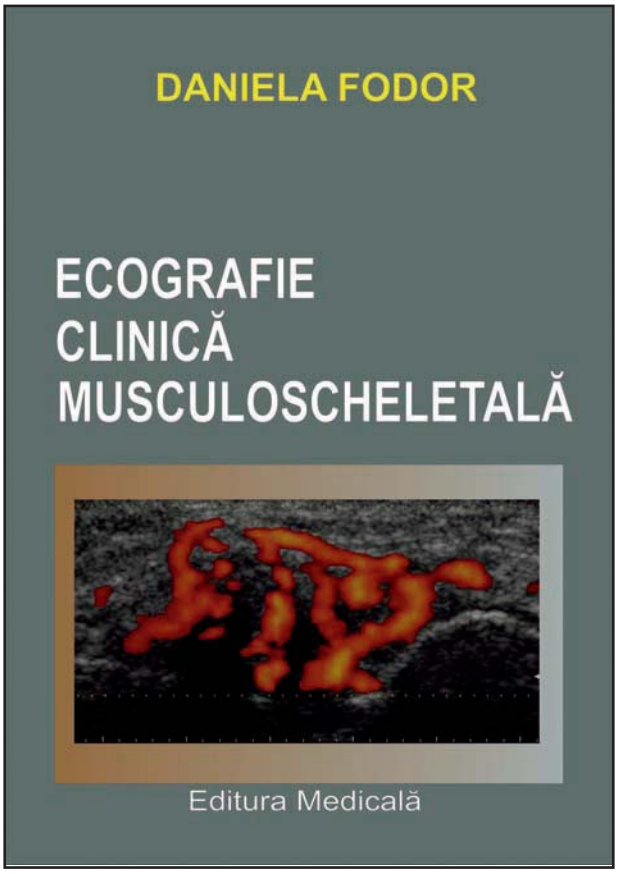
Clinical musculoskeletal ultrasonography

Daniela Fodor, Editor

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Musculoskeletal ultrasonography (US) is in continuous development, and, is connected on one hand with technological advances in instrumentation and on the other with a growing body of published literature on musculoskeletal US applications.

This book, ***Clinical musculoskeletal ultrasonography***, has as its objective to offer readers a clinical approach and to respond to some of the usual practitioners' questions. Radiologists and other physicians who are involved in imaging of the musculoskeletal system are its intended audience. The book will be appreciated by anyone who has a need to learn the techniques of musculoskeletal US



The editor had done an outstanding job of synthesizing the main information needed in applying these techniques of US. The book is structured as a concise, clear, very well illustrated manual and includes anatomy and common pathological conditions which are well illustrated. In addition it includes differential diagnostic possibilities and discussions of these.

It is well written and well indexed, all the chapters having recent and highly significant bibliographic references. It is organized in eight chapters, each for a specific domain. Chapter 1 offers basic knowledge in the physics of ultrasound, technique and Chapter 2 deals with the ultrasonographic semiology of the musculoskeletal system, describing musculoskeletal components, such as muscles, nerves, tendons, joints, ligaments and bone, as well as musculoskeletal regions, such as the cervical region, abdominal wall etc. Chapter 3 describes the ultrasonography of joints (the shoulder, the elbow, the hand, the hip, including hips of newborns and infants , the knee and the foot). Each of the subchapters comprises discussions regarding normal aspects of the joint as well as pathological aspects.

In chapter 4 the author presents the ultrasonography of the skin and subcutaneous tissue. As we have already said, ultrasound technology is evolving rapidly and high-frequency transducers are now easily accessible. Nowadays, the non-invasive assessment of skin conditions is possible, as ultrasound penetrates through the skin surface thus giving the physician the possibility to see into the underlying structure. Identification of skin layers is feasible thus giving the user more information.

In chapter 5 there are some special aspects of musculoskeletal US in rheumatology, with the accent on rheumatoid arthritis, scleroderma, polymyosistis and dermatomyositis, Sjogren syndrome, osteoarthritis and gout.

Musculoskeletal ultrasound has become an established imaging technique for the diagnosis and follow up of patients with rheumatic diseases, as stated by EULAR. US is used in the assessment of soft tissue pathology or detection of fluid collections, but also for other structures such as cartilage and bone surfaces. Advantages of US include its non-invasive techniques, its portability, the lack of radiation and the ability to be repeated as often as necessary making it particularly useful for the monitoring of therapy. US can also be used for the guidance of aspiration, biopsy, and injection therapy.

The next chapter deals with tumors of the musculoskeletal system, and chapter 7 describes musculoskeletal interventional ultrasound and ultrasound guidance in various invasive therapeutic or diagnostic methods.

The last chapter regarding tridimensional ultrasonography and elastography in musculoskeletal pathology is considered special by the authors as it attempts to predict the future changes in this complex field of musculoskeletal US, although the techniques are still at the beginning of their development.

Elastography is a non-invasive method in which stiffness or strain images of soft tissue are used to detect or classify tumors. A tumor or a suspicious growth is normally stiffer than the background of normal soft tissue. When a mechanical compression or vibration is applied, the tumor deforms less than the surrounding tissue, so the strain in the tumor is less than the surrounding tissue.

The anatomic line drawings that accompany the US images in all the chapters assist in orienting the reader to the appearance of musculoskeletal anatomy. The US images are gray scale and color Doppler and include black-and-white photographs and line drawings of the anatomy, all of good quality.

The Editor is a Romanian internal medicine senior and rheumatologist, skilled in the field of musculoskeletal US. The 11 contributors from Romania and abroad include many leaders in the field. The book represents an authoritative review and thus can serve as both an excellent introductory textbook and a very good reference resource for future reading.

In conclusion, this textbook will be of great use to any physician who wishes to perform clinical musculoskeletal ultrasound, regardless of their level of experience. It will be also an excellent handbook for young doctors starting out in their career.

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