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Kashin-Beck disease

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Few orthopaedic surgeons understand Kashin-Beck disease (KBD) or 'big bone disease' and even less have seen a patient suffering from this disease. Surprisingly, more than 3 million people are affected by KBD but in a limited endemic area starting from south-eastern Siberia crossing northern China and ending in central Tibet.

It is unusual that in 2000 so little is known about the aetiology and the physiopathology of a bone disease described for the first time in 1849. There are many reasons for this. The endemic areas are limited to poor, isolated and rural communities. There is no evidence of a genetic transmission nor is it contagious. Incidence evanesces on contact with civilization.

Research teams involved in studying the disease were isolated by the time, geographical area and language. There have been Russian (1850–1950), Japanese (1905–1945) and Chinese (from 1950 until now) periods of investigation. Even today, few exchanges exist between the research centers involved in study of KBD. For instance, without the contribution of one of the past Presidents of SICOT, Takao Yamamuro, the major part of the Japanese scientific achievements would probably have remained unknown by the international community.

From the different hypotheses regarding etiological factors it appears most likely that KBD has a multifactorial origin. The multidisciplinary approach to KBD is fundamental as well as the comparison of the observations, which due to practical problems (retired area, difficult access, altitude more than 4000 m in Tibet, no local medical equipment) are fragmentary and difficult to be completed in a rational scientific way.

KBD is a disabling osteoarticular disease involving growth and joint cartilage. The clinical manifestations start to appear at the age of 5 years, involving increasing numbers of joints during childhood and up to the age of 25 years. Then an osteoarthritic degeneration of the de-

formed joints ensues. One of the main features is the enlargement of the metaphyseal area and the shortening of the diaphysis. Advanced cases may result in important varus or valgus knee deformities that could benefit from osteotomy. In endemic areas, up to 80% of the population of a village may be affected, thus representing a major regional health problem.

At the initiative of "Médecins sans Frontières", a multidisciplinary study was initiated in 1992 in Central Tibet. The first results were presented at an international symposium they organised in Beijing in 1999 under the auspices of SICOT. For the first time, the different research centers from the Asian and the Western world working on this disease were able to meet together. It was a very challenging exchange. Valuable information and results were issued from this meeting and need to be distributed internationally as they contribute, besides specifying the disease, to increasing the understanding of specific aspects of bone growth. Among the most relevant hypotheses is an inhibitory effect of mycotoxin on bone angiogenesis.

Due to the multidisciplinary approach, there is no obvious scientific journal to host this material until *International Orthopaedics* offered to publish it. Study of KBD obviously responds to one of the objectives of SICOT and of our journal to "support the enhancement of research effectiveness and the solution of problems encountered in the development of orthopaedic knowledge and practice" and to bring to an international audience an awareness of specific problems encountered in developing countries.

I am convinced that the present papers will constitute a fundamental contribution to the advancement of our understanding of KBD, and will promote new research and that this issue of *International Orthopaedics* will become a major reference in the field.

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