

THE USE OF THERAPEUTIC ULTRASOUND FOR LIQUIFYING PAINFUL MUSCOLOSKELETAL CYST BEFORE ULTRASOUND-GUIDED INTERVENTION: A CASE STUDY

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Background

Therapeutic ultrasound is a widely used therapeutic modality in many rehabilitation protocols. One of its effects is the liquefaction of solid swelling or gelled fillings of cysts or joints. This case study aims to highlight the potential use of therapeutic ultrasound in cysts with gelled fillings.

Case report

This case study concerns a man (born in 1946) with degenerative shoulder joint disease and a painful acromioclavicular joint cyst formation, which was palpably very stiff and immobile. It has been punctured repeatedly by an orthopaedic surgeon in the past, often complicated by post-puncture secretion. It has never been able to be fully aspirated due to the very stiff and gel-like filling, nor has the pain been alleviated. For this reason, a series of therapeutic ultrasounds was resorted to. The scheme was as follows: week 1 + 2 - three times per week - Mon/Wed/Fri; week 3 - four times per week - Mon-Thu, a total of 10 times. Ultrasound parameters were 1.0-1.6 W/cm², duty factor 50-100 %, alternation of 1 MHz and 3 MHz, application time 6-10 minutes. After each application, the cyst was palpably significantly less stiff and painful. After the series of therapeutic ultrasound described above, the cyst was re-punctured under ultrasound guidance using a subcutaneous tunnel technique to prevent post-puncture secretion, and all the fluid was successfully aspirated. With a specific time interval (2 weeks), the acromioclavicular joint area is significantly less painful, with no signs of further filling production.

Conclusion

This case study demonstrates the significant effectiveness of therapeutic ultrasound in liquefying gelled cyst fillings within the musculoskeletal system, providing a valuable therapeutic tool for ultrasound-guided interventions procedural planning.

Keywords: therapeutic ultrasound, cysts, gelled fillings