A chronic case of the MP joint locking of the thumb treated with joint distraction using the external fixator: a case report

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Objective
Most of fresh cases of the MP joint locking of the thumb are treated with manual reduction. An impossible case is treated with operation. But a chronic case is difficult to treat because of comorbid joint contracture. We report such a case treated with manual reduction after joint distraction using the external fixator.

Case: 26-year-old female
She injured her right thumb in a volleyball game. She visited a few outpatient clinics but was not diagnosed. She came to our clinic at 8 months after her injury.

She had swelling and pain of the MP joint of her thumb and could not flex it.

X ray showed slight hyperextension of the MP joint of her thumb. We diagnosed a chronic case of the MP joint locking of the thumb.

Methods
We used the hinge external fixator device (PIP WING, ARATA ®). At operation the MP joint was set in the external fixator and distracted with the rate of 0.5 mm/day from the next day. In 2 weeks, distraction was stopped.

After 2 weeks, the external fixator was removed and manual reduction was tried. At first the MP joint was simply flexed but the locking was not reduced.

Next the same manipulation with a fresh case, that is, axial compression and bending, was tried. It was successful.

After that, she continued rehabilitation. Her thumb recovered sufficiently.

7 months after reduction

Discussion
This is a novel procedure. A chronic case of the MP joint locking of the thumb combines joint contracture. However, joint distraction resolves it and makes it possible to reduce the joint locking easily.

Conclusion
Joint distraction is a simple and useful method to treat a chronic case of the MP joint locking of the thumb.