

## 10. Respiratory Diseases (including Influenza and Rhinitis)

### References

Kubo T. The effect of maoto for treatment of influenza infection in children. (from Presentation C-41 of the Japan Society for Oriental Medicine, 56th Annual Meeting) *Medicament News* 2005 Sep 5; 1846: 15 (in Japanese)

**Kubo T, Nishimura H. Antipyretic effect of mao-to, a Japanese herbal medicine, for treatment of type A influenza infection in children. *Phytomedicine* 2007; 14: 96-101. CENTRAL ID: CN-00577142, Pubmed ID: 17141491**

### 1. Objectives

To evaluate the effect of maoto (麻黃湯) in combination with oseltamivir on the duration of fever.

### 2. Design

Randomized controlled trial (RCT) (partly).

### 3. Setting

A hospital screening patients from January to May 2004, Japan.

### 4. Participants

Children (aged 0–13 years; n=60) suffering from influenza-like illness with fever of  $\geq 38^{\circ}\text{C}$ .

### 5. Intervention

Oseltamivir 2 mg/kg b.i.d., TSUMURA Maoto (麻黃湯) Extract Granules 0.06 g/kg t.i.d

Influenza infection was screened with a rapid diagnosis test, and diagnosis was confirmed by isolation of the virus or viral detection using RT-PCR

Arm 1: oseltamivir and maoto (麻黃湯); influenza A; n=14..

Arm 2: oseltamivir; influenza A; n=18

Arm 3: maoto (麻黃湯); influenza A; n=17.

(Influenza-positive patients [by the rapid test] were randomly assigned to arm 1 and arm 2. Arm 3 included influenza-positive patients under the age of 1 year, who did not meet the criteria for oseltamivir treatment, and influenza-negative patients aged 1 year or older. Patients [n=11] without confirmed influenza virus infections were excluded.)

### 6. Main outcome measures

Time to becoming afebrile after initiation of the treatment.

### 7. Main results

Body temperature was recorded every 6 hours in patients not treated with acetaminophen. The median period from commencement of treatment to alleviation of fever was 18 h, 24 h, and 15 h in arms 1, 2, and 3, respectively. Using the Wilcoxon rank sum test, significant differences were observed in arm 1 ( $P<0.05$ ) and 3 ( $P<0.01$ ) when compared with arm 2.

### 8. Conclusions

Maoto effectively reduces the duration of fever in children with influenza.

### 9. From Kampo medicine perspective

None.

### 10. Safety assessment in the article

There were no adverse events in any group.

### 11. Abstractor's comments

This RCT consisted of 3 arms: arms 1 and 2 (patients randomly allocated) but not arm 3 (patients not randomly allocated) were compared. Hopefully the authors will conduct an RCT with all three arms, and if possible, use a placebo in a fourth arm. Given that maoto (麻黃湯) has adverse effects, future research would preferably include cohort studies and an RCT with a design that takes into account the predicted frequency of such adverse effects, as mentioned by the authors.

### 12. Abstractor and date

Fujisawa M, 15 June 2007, 1 April 2008, 22 February 2009, 1 June 2010, 31 December 2013.