peak flow readings begins and hence this measurement is of less diagnostic value.

Technically it is quite easy to alter the whistle so that more accurate readings are obtained above 300 l./min., but when this is done the performance of the whistle is less discriminating for small variations at low flow rates. Overestimation of the peak expiratory flow rate by the whistle is negligible (2%).

The instrument, lacking the inertia of moving parts, can respond to very ephemeral periods of raised flow rate, such as may be found in patients with quite severe airway obstruction (the Wright meter does not respond to blasts of less than 10 msecs.). The whistle must be definite and produced with ease—if there is the slightest doubt, then "no-whistle" is declared.

Discussion

It is possible that such devices as the whistle may do for the chronic bronchitic or asthmatic what urine testing does for the diabetic. When a whistle is given to a particular patient to take home or is kept for him at the chest clinic (and the cost of the whistle may be less than the cost of one day's antibiotic) there is little point in using figures to assess the change. A simple mark may be made with a chinagraph pencil on the plastic at the edge of the mouthpiece of the whistle when the maximum leak-hole at which a whistle can still be produced has been found. Alternatively a spiral strip of sticky tape (such as the electric insulating tape Lassotape) may be stuck on the whistle and marked. Periodically the tape can be removed and stuck in the patient's notes to give a graphic record of changes in his condition.

The device can be used in other ways, and a minimum vital capacity can be obtained by timing the duration of a whistle with the leak-hole fully closed. Practice in the use of the instrument improves its usefulness, as with a stethoscope.

Summary

A simple pocket-size plastic whistle was designed to give an idea of the extent of airway obstruction in respiratory disease by estimating peak expiratory air flow rates. The whistle was compared with the Wright peak flow meter by means of estimations carried out on 100 unselected out-patients at St. Thomas's Hospital. Up to 300 litres a minute the whistle appeared to give a satisfactory response; above this value underestimation occurs.

The whistles and mouthpieces were kindly supplied by Airmed Ltd., of Harlow, Essex.

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Medical Memoranda

Mastitis in the Male—a Rare Complication of Mumps

Brit. med. J., 1965, **2**, 1041

Mastitis in the male must be a very rare complication of mumps, and I have not been able to trace a case similar to the one reported here.

Case Report

The patient was a 6 ft. (1.8 m.) farmer, weighing normally 16 st. (101 kg.). He was short-staffed and behind with his sowing, and continued working hard in spite of being warned of the danger as his children and then his wife developed mumps. On 1 March 1965 he duly went down, pole-axed, with bilateral parotid swelling and a temperature of 103° F. (39.4° C.). He was treated with soluble aspirin. There was no evidence of orchitis throughout the illness.

From the first he complained of pain under the right axilla, thought to be due to carrying sacks. On 3 March his facial swelling had gone, but he showed an extremely tender, painful red area in the right mid-axillary line. Over the next 10 days this cellulitis spread widely until it reached the iliac crest, measuring at its peak 16 in. (40.6 cm.) long and 7 in. (17.7 cm.) across. At this time there was a suggestion of central fluctuation, and intramuscular penicillin was given for four days, resulting only in generalized urticaria. General disturbance remained severe, with temperature persistently around 103° F. (39.4° C.). He was unable to move in bed because of this enormous swelling, his pain being only partly relieved by oral pethidine. He showed extreme anorexia and some restlessness.

After three weeks he was still too weak to leave his room and the total illness lasted five weeks, by which time he had lost 2½ st. (15.9 kg.) in weight. When he recovered there was a very small area of thickening left under the right axilla, with branny scaling over it.

It was noted early in the illness that the patient had a well-marked nipple on the left scapula, and it was presumed that the mastitis started in an embryonic remnant of female secretory breast tissue lateral to a very male breast.

Comment

Mastitis in the female as a complication of mumps is mentioned in the larger textbooks, but few actual cases are recorded. Weaver and Petry (1958) reported a case in a nursing mother, and refer to one previous case report (Lee, 1946). Riley (1952) describes a similar complication in an 8-year-old girl.

Mastitis in the male must be extremely rare, though Cecil and Loeb in their *Textbook of Medicine* (1963) state ". . . other less common manifestations of mumps include mastitis in either sex. . . ." It has proved extremely difficult to find any cases in support of this contention, though Rappaport (1943) noted oedema of the chest in a male and Barker (1943) and Gellis and Peters (1944) reported pre-sternal oedema. Smith (1943) had a case of a boy of 15 with "oedema of the front of the chest wall on the right side as far down as the fourth interspace." As mentioned earlier, it has not been possible to trace another case like this one.

I am much indebted to my partner, Dr. Kenneth Biss, for valuable assistance in preparing this paper.

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