least a distal portion of the inner body part and defines a tip; wherein the inner body part comprises a base portion which defines a flow passage therethrough, and a projection in the form of a blade, with a length (d1) in the sagittal direction being greater than a length (d2) in the lateral direction, at the distal end thereof which supports the tip and confers a rigidity in the sagittal direction, which enables the tip to open fleshy tissue at an upper region of the nasal valve and thereby expand an open area of the nasal valve, and a flexibility in a lateral direction, orthogonal to the sagittal plane, which facilitates insertion of the tip into the nasal valve.

In a yet further aspect the present invention provides a nosepiece for delivering substance to a nasal cavity of a subject, the nosepiece comprising a body part which comprises a base portion which defines a flow passage therethrough, and a projection in the form of a blade, with a length (d1) in the sagittal direction being greater than a length (d2) in the lateral direction, at a distal end of the base portion which at least in part provides a tip of the nosepiece and confers a rigidity in the sagittal direction, which enables the tip to open fleshy tissue at an upper region of the nasal valve and thereby expand an open area of the nasal valve, and a flexibility in a lateral direction, orthogonal to the sagittal plane, which facilitates insertion of the tip into the nasal valve.

Description of the Figures

Preferred embodiments of the present invention will now be described hereinbelow by way of example only with reference to the accompanying drawings, in which:

Figures 1(a) to (c) illustrate a delivery device in accordance with one embodiment of the present invention;

Figures 2(a) to (e) illustrate perspective, lateral, front, underneath and longitudinal sectional views (along section A-A) of the nosepiece of the device of Figures 1(a) to (c);

CLAIMS

1. A nosepiece for delivering substance to a nasal cavity of a subject, the nosepiece comprising:

a first, inner body part; and

a second, outer body part which is disposed about at least a distal portion of the inner body part and defines a tip;

wherein the inner body part comprises a base portion which defines a flow passage therethrough, and a projection in the form of a blade, with a length (d1) in the sagittal direction being greater than a length (d2) in the lateral direction, at the distal end thereof which supports the tip and confers a rigidity in the sagittal direction, which enables the tip to open fleshy tissue at an upper region of the nasal valve and thereby expand an open area of the nasal valve, and a flexibility in a lateral direction, orthogonal to the sagittal plane, which facilitates insertion of the tip into the nasal valve.

2. The nosepiece of claim 1, wherein:

(i) the inner body part is formed of a plastics material, optionally an acrylonitrile butadiene styrene (ABS) plastic; or

(ii) the outer body part is formed of a resilient material, optionally a rubber or elastomeric material, optionally the outer body part is formed of a thermoplastic elastomer (TPE).

3. The nosepiece of claim 1, wherein the base portion defines a substantially annular surface at a distal end thereof which tapers or is inclined in relation to the longitudinal axis of the nosepiece, such that the surface of the base portion is inclined from the projection in a proximal direction, whereby the base portion is shorter at that side which is opposite to the projection.

4. The nosepiece of claim 1, wherein the projection extends axially in substantially parallel and offset relation to the longitudinal axis of the nosepiece.

5. The nosepiece of claim 1, wherein:

(i) the length (d1) in the sagittal direction is 1.5 times greater than the mean length (d2) in the lateral direction;

(ii) the length (d1) in the sagittal direction is 1.7 times greater than the mean length (d2) in the lateral direction;

(iii) the length (d1) in the sagittal direction is 1.9 times greater than the mean length (d2) in the lateral direction;

(iv) the length (d1) in the sagittal direction is 2 times greater than the mean length (d2) in the lateral direction;

(v) the projection has a length (d1) in the sagittal direction of less than 3 mm, optionally less than 2.5 mm;

(vi) the projection has a length (d1) in the sagittal direction of greater than 1.5 mm;

(vii) the projection has a length (d2) in the lateral direction of less than 1.5 mm, optionally less than 1.25 mm;

(viii) the projection has a length (d2) in the lateral direction of greater than 0.5 mm, optionally greater than 0.75 mm;

(ix) the projection has a main body section and a tip section which has a shorter length (d3) in the sagittal direction than the length (d1) of the main body section, optionally defining a step at an inner edge thereof; or

(x) the projection has a tapering lateral cross-section along a longitudinal extent thereof, with the length (d2) in the lateral direction reducing in cross-section along the longitudinal extent in a direction towards the distal end thereof.

6. The nosepiece of claim 1, wherein the tip of the nosepiece, on insertion into the nasal valve, expands the nasal valve to have a cross-sectional area which is at least 1.5 times an

unexpanded cross-sectional area of the nasal valve, optionally at least 1.75 times an unexpanded cross-sectional area of the nasal valve, optionally at least 2.0 times an unexpanded cross-sectional area of the nasal valve.

7. A nosepiece for delivering substance to a nasal cavity of a subject, the nosepiece comprising a body part which comprises a base portion which defines a flow passage therethrough, and a projection in the form of a blade, with a length (d1) in the sagittal direction being greater than a length (d2) in the lateral direction, at a distal end of the base portion which at least in part provides a tip of the nosepiece and confers a rigidity in the sagittal direction, which enables the tip to open fleshy tissue at an upper region of the nasal valve and thereby expand an open area of the nasal valve, and a flexibility in a lateral direction, orthogonal to the sagittal plane, which facilitates insertion of the tip into the nasal valve.

8. The nosepiece of claim 7, wherein the body part is formed of a plastics material, optionally an acrylonitrile butadiene styrene (ABS) plastic.

9. The nosepiece of claim 7, further comprising an outer body part which is disposed about at least the projection, optionally the outer body part is formed of a resilient material, optionally a rubber or elastomeric material, optionally the outer body part is formed of a thermoplastic elastomer (TPE).

10. The nosepiece of claim 7, wherein the base portion defines a substantially annular surface at a distal end thereof which tapers or is inclined in relation to the longitudinal axis of the nosepiece, such that the surface of the base portion is inclined from the projection in a proximal direction, whereby the base portion is shorter at that side which is opposite to the projection.

11. The nosepiece of claim 7, wherein the projection extends axially in substantially parallel and offset relation to the longitudinal axis of the nosepiece.

12. The nosepiece of claim 7, wherein:

(i) the length (d1) in the sagittal direction is 1.5 times greater than the mean length (d2) in the lateral direction;

(ii) the length (d1) in the sagittal direction is 1.7 times greater than the mean length (d2) in the lateral direction;

(iii) the length (d1) in the sagittal direction is 1.9 times greater than the mean length (d2) in the lateral direction;

(iv) the length (d1) in the sagittal direction is 2 times greater than the mean length (d2) in the lateral direction;

(v) the projection has a length (d1) in the sagittal direction of less than 3 mm, optionally less than 2.5 mm;

(vi) the projection has a length (d1) in the sagittal direction of greater than 1.5 mm;

(vii) the projection has a length (d2) in the lateral direction of less than 1.5 mm, optionally less than 1.25 mm;

(viii) the projection has a length (d2) in the lateral direction of greater than 0.5 mm, optionally greater than 0.75 mm;

(ix) the projection has a main body section and a tip section which has a shorter length (d3) in the sagittal direction than the length (d1) of the main body section, optionally defining a step at an inner edge thereof; or

(x) the projection has a tapering lateral cross-section along a longitudinal extent thereof, with the length (d2) in the lateral

direction reducing in cross-section along the longitudinal extent in a direction towards the distal end thereof.

13. The nosepiece of claim 7, wherein the tip of the nosepiece, on insertion into the nasal valve, expands the nasal valve to have a cross-sectional area which is at least 1.5 times an unexpanded cross-sectional area of the nasal valve, optionally at least 1.75 times an unexpanded cross-sectional area of the nasal valve, optionally at least 2.0 times an unexpanded cross-sectional area of the nasal valve.

14. A nasal delivery device comprising the nosepiece of any of claims 1 to 13.