twist/bend occurs in a section of the stent and the stent section deforms to a substantially oval shape. If a kink occurs in a stent implanted in a bent hollow organ, there is a possibility that a gap between an inner wall of the hollow organ and the stent becomes clogged with a blood clot and flow of liquid such as blood in the hollow organ becomes obstructed. For this reason, not only the conformability but also retention of a circular sectional shape upon bending have been demanded for a stent. In description below, the degree of retention of the circular sectional shape upon bending of the stent is referred to as “patency”.

Embodiments of the present invention provide a stent having a high patency against bending.

Means for Solving the Problems

According to an aspect of the present invention, there is provided a stent to be inserted into a catheter while being compressed radially, the stent including a plurality of corrugated pattern bodies having a corrugated pattern and arranged next to each other in an axial direction of an axis, and a plurality of connection elements arranged in a direction about the axis and connecting the corrugated pattern bodies adjacent to each other. The corrugated pattern is formed of a plurality of corrugated units, each corrugated unit including a first stem, a second stem, a third stem, a first top portion coupling a first end portion of the first stem on one side (first side) and a first end portion of the second stem on one side (first side), and a second top portion coupling a second end portion of the second stem on the other side (second side)

and a first end portion of the third stem on one side (first side). A second end portion of the third stem on the other side (second side) is connected to a second end portion of the first stem on the other side (second side) in an adjacent corrugated unit in the direction about the axis. A first end portion of each connection element on one side (first side) is connected to the first top portion of one of adjacent ones of the corrugated units in the axial direction, and a second end portion of each connection element is connected to the second end portion of the first stem of the other one of the adjacent ones of the corrugated units in the axial direction.

In an embodiment of the above-described aspect of the invention, the second top portion of each corrugated unit may be formed to protrude toward a distal side in the direction of insertion of the stent into the catheter.

In an embodiment of the above-described aspect of the invention, the third stem of one of the corrugated units and the first stem of another one of the corrugated units adjacent to the one of the corrugated units in the direction about the axis may be, at end portions thereof, coupled to each other to form a slit therebetween.

In an embodiment of the above-described aspect of the invention, when viewed in a radial direction perpendicular to the axial direction, an annular direction of the corrugated pattern of each corrugated pattern body may be inclined with respect to the radial direction.

In an embodiment of the above-described aspect of the invention, the sum of the length of the first stem and the length of the second stem may be longer than the length of the

third stem.

In an embodiment of the above-described aspect of the invention, the sum of the length of the first stem and the length of the second stem may be shorter than the length of the third stem.

In an embodiment of the above-described aspect of the invention, the length of each connection element may be shorter than the length of the second stem, and when viewed in the radial direction perpendicular to the axial direction, the annular direction of the corrugated pattern of each corrugated pattern body may be substantially coincident with the radial direction.

Effects of the Invention

According to embodiments of the present invention, a stent with a high patency against bending can be provided.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side view showing the configuration of a stent 10 of a first embodiment;

FIG. 2 is a development view showing a state in which the stent 10 is virtually opened in a planar shape;

FIG. 3 is a partially-enlarged view of the stent 10;

FIG. 4A is a side view showing a state in which the diameter of the stent 10 is expanded;

FIG. 4B is a side view of the stent 10 provided with markers 100;

CLAIMS

1. A stent to be inserted into a catheter while being compressed radially, comprising:

a plurality of corrugated pattern bodies having a corrugated pattern and arranged next to each other in an axial direction of an axis; and

a plurality of connection elements arranged in a direction about the axis and connecting the corrugated pattern bodies adjacent to each other,

wherein the corrugated pattern is formed of a plurality of corrugated units, each corrugated unit includes a first stem, a second stem, a third stem, a first top portion coupling a first end portion of the first stem on one side and a first end portion of the second stem on one side, and a second top portion coupling a second end portion of the second stem on the other side and a first end portion of the third stem on one side, and a second end portion of the third stem on the other side is connected to a second end portion of the first stem on the other side in an adjacent corrugated unit in the direction about the axis, and

a first end portion of each connection element on one side is connected to the first top portion of one of adjacent ones of the corrugated units in the axial direction, and a second end portion of each connection element is connected to the second end portion of the first stem of the other one of the adjacent ones of the corrugated units in the axial direction.

2. The stent according to claim 1, wherein

the second top portion of each corrugated unit is formed to protrude toward a distal side in a direction of insertion of the stent into the catheter.

3. The stent according to claim 1 or 2, wherein

the third stem of one of the corrugated units and the first stem of another one of the corrugated units adjacent to the one of the corrugated units in the direction about the axis are, at end portions thereof, coupled to each other to form a slit therebetween.

4. The stent according to any one of claims 1 to 3, wherein

when viewed in a radial direction perpendicular to the axial direction, an annular direction of the corrugated pattern of each corrugated pattern body is inclined with respect to the radial direction.

5. The stent according to claim 4, wherein

a sum of a length of the first stem and a length of the second stem is longer than a length of the third stem.

6. The stent according to claim 4, wherein

a sum of a length of the first stem and a length of the second stem is shorter than a length of the third stem.

7. The stent according to any one of claims 1 to 3, wherein

a length of each connection element is shorter than a length of the second stem, and

when viewed in a radial direction perpendicular to the axial direction, an annular direction of the corrugated pattern of each corrugated pattern body is substantially coincident with the radial direction.