

# The Winding Pulse

*By Jin Wei*

The winding pulse includes three patterns: the weak winding pulse, the strong winding pulse and the pseudo-winding pulse.

(1) Pulse features: The winding pulse is similar to the overlapped pulse and they both belong to separated pulse. The differences between them are: the overlapped pulse is marked by a weak throb following a big throb, while the winding pulse is characterized by a short and strong throb following a stable throb, which disappears later- The winding pulse is usually seen at the +B phase of the group B, which is a common feature of the pulses of various tumors.

(2) Indication: Various kinds of tumors and hyperosteogeny.

(3) Mechanism: The winding pulse is also known, as OB pulse. Due to the pressure from the cardiac contraction, blood flows in its passageways (blood vessels). Blood will flow backwards when it is resisted. The blood flowing backwards collides with that flowing forwards, forming vertex<sup>ii</sup> flow. This is similar to the vertex flow of river caused by resistance of the bridge pier against the roaring water in the river. The size of the vertex flow is related to the velocity of flow and the strength of the resistance. It will be large if the velocity of flow as well as the resistance is big. Conversely, it will be small in the case of small velocity of flow and resistance of the bridge pier against the roaring water in the river. The size of the vertex flow is related to the velocity of flow and the strength of the resistance. It will be large if the velocity of the flow as well as the resistance is big. Conversely, it will be small in the case of small velocity of flow and resistance.

When a tumor develops in a tissue or organ of the body, the growing tumor mass will press the adjacent blood, vessels, leading to obstruction of the blood flow and the resultant formation of the winding pulse.

(4) Diagnostic method: This pulse should be measured with heavy pressure first and lighter pressure later. That means, use heavy pressure first to find the beat of the pulse, then, in light of the strength of the beats, adopt gradually reduced pressure until the pulse is felt the most distinctly. In addition, the pressure exerted through the fingers should be changed corresponding to the rising and sinking of the beat. When the vessel dilates, release the pressure properly; while when it contracts, exert more pressure. Be sure not to use improper strong force to examine the pulse.

(5) Variations: The winding pulse, or the OB pulse, is a typical pulse seen in tumor patients. So it is specific to tumors. But it varies with the different pressures produced by the tumors of different sizes which lead to different resistance against blood flow, and the different natures of the tumor masses. For example, the pulse may be seen when the bladder and the rectum are filled to certain degree, which is called pseudo-winding pulse or pseudo-OB pulse since it is not typical. A small

tumor mass may cause a weak vertex flow of blood because it presses the vessels lightly, which is known as the weak winding pulse and presents the typical features of the winding-pulse. In the case of larger tumor mass or at the later stage of pregnancy, severe pressure is exerted in the vessels from the mass or the fetus and the resistance to the blood flow is great, so typical winding pulse presents, which is known as the strong winding pulse. The follow is detailed discus-an of these variations.

The weak winding pulse: This pulse has evident separation, with frequent weak rushing beats at the ending of the pulsation, en mostly in early stage of tumors, and should be detected with light and moderate pressures.

The strong winding pulse: This pulse also has evident separation, but the rushing throb is forceful and frequent, seen mostly in the middle and advanced stage of the tumor or the later stage of pregnancy. The winding pulse caused by pressure from the fetus or benign tumors has a weak, stable and less frequent rushing beats at the ending of the pulsation, which occupies about 70%-75% of the pulse beats. The malignant tumor grows rapidly although the mass may be small, so it requires a large volume of blood. This is especially true when metastasis occurs. So the pulse is very typical. The rushing beats at the end of the pulsation is strong and frequent (over 80% of the pulse beats) but it is unstable, and it is seen mostly in the advanced tumors or the later Stage of pregnancy. It should be measured by exerting heavy pressure first and then the light pressure.

The pseudo-winding pulse: The pulse has mild separation. The rushing throb at the end of pulsation is large, soft and unstable, changing in accordance with bodily positions. It is usually seen in mild ascites, retention of urine or pleural effusion. It should be measured with moderate or light pressure.

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i Quoted from *The Practical Jin's Pulse Diagnosis* by Jin Wei. Translated by Lu Yubin, et al. Shandong Science and Technology Press, 1997. Pages 104-106.

ii From the Dong Han perspective, this image is in 2-D; examining it in 3-dimensions we would see it as a spinning or vortex motion. The term "winding" in English suggests such a circular movement around a center.