

**Review Article****Beauty Parlour Syndrome: A Modern Threat to the Feminine World**Sai Krishna. G^{*1}, Komal Krishna.T², Sai Teja.T¹, Krupa Sagar.Y¹¹JSS college of Pharmacy, Mysuru-570015, Karnataka, India.²JSS college of Physiotherapy, Mysuru-570015, Karnataka, India.**ARTICLE INFO:****Article history:**

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ABSTRACT

Eighty percent of strokes are of ischemic in nature. Twenty percent of ischemic events engage tissues supplied by the posterior (vertebro-basilar) circulation. The paralysis of vertebro-basilar stroke can be calamitous, and some forms have high rates of death. Many cases of vertebro-basilar disease remain undiagnosed or falsely diagnosed. Some common symptoms associated are dizziness or transient loss of consciousness. Vertebro-basilar disease is a broad classification expresses the condition where there is an insufficient shipment of blood flow via the vertebral and/or basilar arteries to the brain. Blood is shipped to the brain through the carotid and vertebral arteries. The vertebral arteries are situated at the back of the neck and fuse at the base of the brain to form the basilar artery. The vertebral and basilar arteries supply blood to considerable structures in the brain. oping vestibular dysfunction.

1. Introduction

“Beauty Parlour Syndrome” refers to a transitory set of symptoms due to reduced blood flow to the posterior circulation of the brain. The posterior circulation supplies blood to the medulla, cerebellum, Pons, midbrain, thalamus, and occipital cortex which is responsible for vision. Therefore, the symptoms due to BPS vary according to which portions of the brain experience significantly diminished blood flow. In the United States, 25 percent of strokes and transient ischemic attacks occur in the vertebra basilar distribution[1].

1.1 Synonyms

Beauty Parlour Stroke syndrome, Saloon Sink Syndrome, Saloon Wash-basin Syndrome, Vertebro-basilar Circulatory Disorder, Global Cerebral Ischemia, Vertebro-basilar Insufficiency, Vertebral Basilar Ischemia, vertebra-basilar athero-thrombotic disease, Basilar artery occlusion.

1.2 History

Beauty Parlour Syndrome was first expressed in the early 1990s when an American neurologist identified five patients who suffered strokes as a result of sustained distortion of their necks from sitting at salon wash basins. In 1997, The Lancet published a report by British doctors regarding a 42-year-old woman who suffered a stroke after having her hair washed. The experts mentioned the stroke was due to "dissection of her right internal carotid artery. Her head had been extended backwards for around five minutes while being cleaned and after the treatment she felt numb and suffered slurred speech."

The doctors recommended that hair dressers use a cushion and that the neck is not over extended. As a result, several sink cushions have been developed. Trainee hair dressers are also being taught to make sure that their clients are comfortable and convenient. Several recent studies of the causes of strokes have identified how salon washing basins apply stress on to the neck, creating the carotid or vertebral arteries to tear[2,3]. Earlier, clinicians used the term vertebro-basilar insufficiency, to pinpoint a hemodynamic origin of all cases of posterior-circulation ischemia. During the past 15 years, data contributed by clinical studies and brain imaging has revolutionized our understanding of the clinical aspects, mechanisms, causes, treatments, and prognosis of posterior-circulation ischemia.

1.3 Epidemiology[5]

The incidence of BPS increases with age and typically occurs in the sixth or seventh decade of life. Reflecting atherosclerosis, which is the most common cause of Vertebro-basilar Insufficiency, it affects men two fold as women and patients with hypertension, diabetes, dyslipidemias, and smoking have a greater risk of developing VBI. VBI, often provoked by sudden and temporary drops in blood pressure, can cause transient ischemic attacks.

1.4 Causes

The most common causes of Beauty Parlour Syndrome are as follows[7]:

- Large-artery atherosclerosis (Atherosclerosis or hardening of the arteries is the primary cause of vertebra-basilar disease. This places the individual at increased risk for temporary ischemic attack and stroke) Penetrating small-artery disease (The small arteries that supply the brain stem and thalamus arise from the intracranial vertebral, basilar, and posterior cerebral arteries. Hypertension increases the likelihood of lipohyalinotic thickening of these arteries, which, in turn, causes small infarcts)
- Embolism (Emboli arise from the heart, aorta, and proximal vertebral and basilar arteries)
- Arterial dissection (Dissections occur in the portions of the extra cranial vertebral arteries that are better voluntarily movable. These are the third segment of the vertebral artery that extends around the upper cervical vertebrae and the early portion of the vertebral artery between its origin and its entrance into the intervertebral foramina)

Migraine, fibro muscular dysplasia, coagulopathies, and drug abuse are much less frequent causes.

1.5 Signs and symptoms[9]

- Vertigo/dizziness (since decreased blood flow in the vertebra basilar distribution)
- Visual disturbances (graying, double vision, blurring)
- Drop attack (like sudden falls)
- buckling of the knees (weakness of the quadriceps)
- Numbness or tingling
- Slurred or lost speech
- Confusion
- Headache
- Issues with swallowing
- Vomiting

The most common signs are limb weakness, limb ataxia, gait, oro-pharyngeal dysfunction, and oculomotor palsies.

1.6 Risk factors[6]

- Advanced age
- Hypertension
- Obesity
- High-cholesterol levels
- Diabetes
- Smoking
- Inactive lifestyle (sedentary)

1.7 Diagnosis[2,5]

The evaluation for Vertebro-basilar insufficiency starts with a history and physical examining, with great emphasis on the cardiovascular and neurologic examinations. This often includes a cholesterol level, lipid profile, ECG, and echocardiogram. Screening for protein C, protein S, or antithrombin III deficiency is often endorsed but these are more generally responsible for venous thrombosis than arterial problems.

Imaging studies are rarely required to diagnose VBI are as follows:

- Computed tomography (CT) is performed. The CT is extremely sensitive in detecting hemorrhage.
- Magnetic resonance imaging (MRI) is superior to the CT in detecting ischemic changes in the vertebro-basilar distribution.
- Magnetic resonance angiography (MRA) also can be used to identify vertebro-basilar stenoses or occlusions.
- Intracranial MRA is mostly sufficient to evaluate vertebro-basilar arteries, while extra-cranial vertebral arteries are preferred diagnosed employing contrast-enhanced MRA, which is less dependent on flow phenomena and more accurate in appraising stenosis.
- CT angiography is also eminently accurate in evaluation vertebro-basilar vessels, but ionizing radiation and use of nephro toxic contrast media make it less suitable both in elderly with renal insufficiency and young adults because of radiation exposure.

1.8 Management of beauty parlour syndrome[11,13]

Treatment usually involves lifestyle modifications. For example, if VBI is associated mainly to postural changes, patients are advised to slowly rise to standing position after sitting for a lengthy course of time. An apt exercise regimen for each patient can also be designed in order to avert the extravagant pooling of blood in the legs. Dehydrated patients are often advised to increase their water intake, specifically in hot, dry climates. Decisively, when applicable, patients are often advised to stop smoking and to regulate their hypertension, cholesterol level, and diabetes.

Sometimes, to prevent further occlusion of blood vessels, patients are initiated on an antiplatelet agent (clopidogrel or aspirin) or sometimes an anticoagulant (warfarin) once hemorrhage has been ruled out with imaging.

1.8.1 Non-Pharmacological and preventive therapy

Various medical, interventional, and surgical options are accessible to treat ischemia of the posterior circulation of the brain.

Lifestyle Changes

The very first step in the treatment of vertebro-basilar disease is life style modification. Patients should carefully ensure their physician's instructions to:

- Eat a diet low in cholesterol
- Stop smoking
- Exercise
- Control their diabetes and Hypertension

Surgical Options

- Endarterectomy
- Bypass grafting
- Vertebral artery reconstruction
- Angioplasty and Stenting

1.8.2 Endovascular procedures

Evidence provided by scattered case series suggests that vertebra-basilar angioplasty and stenting may become crucial therapeutic approach for large artery vertebra-basilar disease. Preliminary results of stenting or angioplasty of occlusive vertebral-artery lesions in the neck show that re-stenosis is more common than with carotid-artery stenting. The narrow diameter and angulations' of the vertebral artery origin complicate endovascular treatment. Intracranial vertebral and basilar artery angioplasty and stenting have produced mixed results, with a relatively high rate of complications. Although the results are preliminary, mechanical removal of thrombo-emboli may become potentially advantageous in patients who cannot take thrombolytic drugs and as an adjunct to thrombolysis.

1.8.3 Surgery

Enderectomy for severe extra cranial vertebral artery disease has low rates of complications and mortality when performed by surgeons with broad experience. The implications for vertebral artery surgery are still uncertain. Before the advent of intracranial angioplasty, bypass shunts were surgically placed between extra-cranial arteries and the intracranial posterior circulation, with little benefit, but no trials were undertaken to prove their effectiveness.

1.8.4 Prognosis

The outcome of vertebra-basilar stroke varies on the severity of the neurologic signs, the presence or absence of arterial lesions, the location and degree of infarction, and the mechanism of ischemia. The rate of death immediately after posterior-circulation stroke is merely 3 to 4 percent.

1.9 Prevention of Beauty parlour syndrome

- Use head bed (head-neck cushion)

It's made from five-star high grade silicone rubber, is hygienic, soft, ergonomic and durable for literally thousands of washes. It serves as a wake-up call to salon owners in considering their duty of care in relation to their client, fully understanding the related health risks that exist at the salon backwash and doing something about it.

The most common cause of vertebra-basilar disease is atherosclerosis. You can help prevent atherosclerosis by following these instructions:

- Do not smoke
- Eat foods that are low in fat and cholesterol
- Lose weight if you are overweight
- Exercise frequently according to your physician's instructions
- Lower blood pressure if it is high
- Lower blood sugar if it is high

2.0 Conclusion

Beauty parlour syndrome (Vertebro-basilar Insufficiency) it occurs when the neck is overextended into a backwash sink during hair washing, injuring the blood vessels in the neck

and disrupting the blood flow to the brain. At worst it can lead to damage of the vertebrae and smaller arteries of the neck and in some cases is responsible for strokes. Head Bed is an ingenious head-neck cushion – currently available in more than 30 countries around the world. Head Bed's unique and patented design, combining an adjustable head support platform and additional support cushion, diminishes needless pressure on the neck by supporting a client's head at its heaviest point, the occipital bone. This allows the neck muscles to completely relax.

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Conflict of interest

Nil.

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