Just a hundred years have passed since Leo Buerger reported its original description, but the exact status of this disease remains still unclear. It is very meaningful to review the recent literatures to discover what any current advances were ever carried out for understanding this peculiar vascular disease. Before 1960 the disease was misunderstood as a variant of presenile atherosclerosis and there was prevalence for the disease to be over diagnosed for many kinds of chronic arterial occlusive diseases (e.g. mesenteric Buerger's or cerebral Buerger's disease, et al), after then there have been found abundant evidences of the true existence of this peculiar form of arterial occlusive diseases affecting the peripheral arteries of young smokers which were quite different from atherosclerosis. Now Buerger's disease is recognized as a distinct individual disease in its clinical courses and histopathological findings. Although the cause of the disease is not yet pointed out, cigarette smoking is known exclusively closely related to initiations, exacerbations and remissions of this disease.

Many studies concerning what is its real cause has done but failed to create new theory. Recent several research works suggested that Buerger's disease is most likely an endarteritis that is introduced by T-cell mediated cellular immunity and B-cell mediated humoral immunity associated with the activation of macrophages or dendritic cells in intima.

Although Buerger's disease is worldwide in its distribution, it is more prevalent in the middle, east and far east region of the world. Most patients are male who are cigarette heavy smokers in third or fourth decade of life. Recently female smokers relatively increased but they do not influence total rate of Buerger's disease in the world. Shionoya reported that the rate of Buerger's disease in Korea and Japan was 16–66% of the chronic arterial occlusive diseases, but its current rate in Korea decreased less than 5% of the chronic arterial occlusive diseases as its global incidence has declined remarkably nowadays.

Recently it was emphasized that Buerger's disease may occur or progress in subjects who are exposed to environmental tobacco smoke (passive smoker). Pathologic examinations show perivascular inflammation involving small and medium sized arteries and vein which are together bound into a rather firm cord and nerves, and with preservation of the internal elastic lamina in arterial wall, which is differentiating from other forms of arteritis.

Ischemic manifestations appear mainly in the distal parts of the extremities, and coldness and trophic lesions occur in the fingers and toes, foot claudication (sole than instep) is manifested when arterial occlusions involve the lower leg and foot. Calf claudication usually occurs in cases of suprapopliteal arterial occlusion.

Some patients in rural area in Korea visited at first in herb clinic due to ischemic lesions on toes and foot, and there herb doctors gave them acupunctures and moxibustions on the tips of toes which progressed to unhealed wounds, yielded intractable rest pain. At last patients by himself wanted for major limb amputations to escape from severe rest pain which disturbed his peaceful night sleep.

The diagnosis of Buerger's disease is still based on the classical clinical criteria proposed by Shionoya and Mishima who described smoking habits, the onset of symptoms < 50 years old, infrapopliteal arterial occlusion confirmed by angiography, phlebitis migrans, and the absence of atherogenic risk factors other than smoking.

In cases of diabetes, hypertension, hyperlipidemia, arteritis, autoimmune or collagen disease, Buerger's disease should be ruled out in the diagnosis even if patients are...
Younger than 50 years old. All of the rheumatologic and serologic investigations have proven unremarkable. Any specific markers for the diagnosis have not been found. Although doppler ABI does not help to recognize the disease, the monitoring ankle and toe pressure and phlethysmography have practical clinical value because impairment of distal arterial flow is characteristic feature of Buerger's disease. In arteriography, multiple segmental occlusions of distal extremity arteries are characteristic and the most occlusive patterns are tapering and abrupt occlusion with tree root, spider leg like abundant collateral networks, sometimes corkscrew appearance around the occlusion, but the artery proximal to the occlusion appears smooth and its caliber is even maintained in most cases. In some occasions, a corrugated or accordion like appearances are seen in femoral artery suggesting an associated arterial spasm. The most frequently involved arteries in author's experience were tibioperoneal arteries and below knee popliteal arteries and most of them had intractable rest pain due to distal hallux gangrene. The patients who have suffered from Buerger's disease are getting older, the findings of atherosclerosis could be overlapped on arterial changes of Buerger's disease. The arterial involvement appears to progress in a distal to proximal fashion. The most paramount for the therapy of Buerger's disease is complete abstinence from the use of all tobacco including cigarettes, cigars, and smokeless tobacco. Unfortunately some portion of the patients of Buerger's disease are not able to quit smoking against every medical advise.

Although some physician advised patients who were unable to discontinue smoking to replace cigarette smoking with smokeless tobacco, there were reported that potential relationships were between Buerger's disease and even smokeless tobacco, and substitution of smokeless tobacco for cigarettes in Buerger's diseases did not prevent the disease progression and limb loss.

Surgical revascularization is frequently not feasible because of the diffuse segmental involvement and distal nature of the disease, however, bypass surgery with the use of autologous vein could be considered in the cases of skip or bridging occlusions with distal run off arteries.

About 25 percent of the author's patients could undergo bypass surgeries, sometimes arterial bypass and sympathectomy were performed simultaneously. Their longterm patency rates were rather poor, but as long as the bypass grafts were patent, these accelerated the healing of ischemic ulcers and alleviated ischemic symptoms.

Other surgical procedures such as omental transfer and peripheral venous arterialization were tried once but now abandoned.

Scopic techniques of sympathectomy (endoscopic, retroperitoneoscopic) were introduced instead of open sympathectomy.

The clinical course is primarily influenced by whether or not the patient completely stops smoking. The disease recurrences are common with resumption of smoking. Although every efforts including medical and surgical therapy were tried, about 20% of patients eventually required major amputations.

It was known that Buerger's disease does not influence life span of patients even though patients lose parts of limbs in the course of disease.

Considerable good results were reported with continuous epidural spinal cord stimulation by implanted device which yielded significant benefit in microcirculation, good limb salvage and prevention of new trophic lesions.

Various drugs have been introduced and clinically tried, but those have been proven that none of them is specific for the therapy of Buerger's disease.

No forms of therapy have been definitely set up so far. In spite of many studies in last decade, they have not brought us anything to enable us to improve the treatment of Buerger's patients.

But the recent evolution in the new therapeutic approaches in the angiogenesis scope have opened up new possibilities for the treatment of Buerger's disease. These some preliminary reports, not all of them, encourage us to make closer approach for the therapy of Buerger's disease than before.

REFERENCES