

## • 医学史 •

# 祖国医学在口腔科方面的四项重要贡献

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### 一、失活牙髓用的砷剂

到目前为止，口腔科用砷剂失活牙髓，还被我国及其他国家应用着，在牙病的治疗上占有重要地位。

有很多人认为口腔科应用砷剂失活牙髓是从外国传来的，其实不然，我国很早就开始应用了。我国在医学方面应用含砷矿物的历史很悠久，多以礞石（《神农本草经》）、苍礞（唐·《新修本草》）、砒石（宋·《开宝本草》）、信石、人言（明·《医学纲目》），以及砒黄、砒霜、雌黄、雄黄、鸡冠石等名称记载，不过含砷量之多少有所不同。

汉代张仲景（约150~219）著《金匮要略》中有“小儿疳虫蚀齿方：雄黄 葶苈 右二味，末之，取腊日猪脂溶，以槐枝绵裹头四五枚，点药烙之”<sup>(1)</sup>

明·李时珍（1518~1593）著《本草纲目》第10卷金石部·砒石项下附方中有：“砒霜 半两，醋调如糊，碗内盛，待干刮下，用粟粒大，绵裹安齿缝，来日取出，有虫自死，久患者不过三日即愈”<sup>(2)</sup>

毫无疑问，这是用砷剂治疗牙病，而且这里所提到的用量和用法，也是比较科学的。

另外，唐·王焘著《外台秘要》第22卷载有：“必效杀齿虫方：雄黄末，以枣膏和为丸，塞牙孔中，以膏少许置齿，烧铁蓖烙之，令彻热以差止”<sup>(3)</sup>。

据文献记载，一律认为欧美各国应用砷剂失活牙髓是1836年由美国的 Spooner 开始的。在他的著作《健齿指针》（Guide to Sound Teeth）中叙述了这一情况。我国古代医家张仲景却比 Spooner 使用砷剂早1,500多年<sup>(4)</sup>。

Spooner 用砷剂治疗牙病的方法是在敷药

之后用赤热的烙铁插入根管中破坏牙髓，这和张仲景、王焘所记述的方法颇有相同之处，是很令人寻味的。这足以说明我国医学遗产的丰富性和先进性，也说明我国医学遗产这个宝库中大有潜力可挖<sup>(5)</sup>。

### 二、充填牙齿用的汞合金

据朱希涛教授的考察，唐高宗显庆四年（659）苏敬（宋人为了避讳，故多把苏敬改称为苏恭）著《新修本草》已有关于汞合金的记载。李时珍在《本草纲目》中谓之银膏，引“唐本草”苏恭集解曰：“其法用白锡和银箔及水银合成之，凝硬如银，合炼有法。今方士家有银脆，恐即此物。……亦补牙齿缺落”<sup>(6)</sup>

明·刘文泰等所辑《本草品汇精要》亦有类似记载，谓“银膏主热风……此膏以符凌平土水银和白锡及银箔合成之，凝硬如银，堪补牙齿缺落，谨按本经合炼之法未详，询之方士备云：其法先以汞一百分，银箔四十五分，杀作泥子后，用白锡九百分内铁锅中火熔成汁，出炉约人行二十步，将泥子投入，令匀，则成膏矣。其炼之法，以人行二十步为则者，恐锡太热，则汞飞走，太冷则锡坚凝与其不相合也。时经试炼，果如所言……”<sup>(7)</sup>。

那么在唐代，或更早些时间，就发现了用汞合金充填牙齿，而欧美各国是什么时候使用汞合金充填牙齿的呢？据朱希涛教授的推测，不外有以下几种说法<sup>(8)</sup>。

1. 1819年英人 Bell 最初使用汞合金，1826年法人 Taveau 开始使用，1836年 Crawcouh 将汞合金传入美国。

2. 以后有人将当时的银币锉成粉末，与汞混合而充填牙齿。

3. 也有人认为最早应用汞合金的可能是法

人 M Taveau, 约在 1826 年。

总而言之, 汞合金传入英美诸国, 还不到 150 年的历史, 而我国却远在 1,300 年, 就配成银膏, 用以充填牙齿了。

### 三、清洁牙齿用的牙刷

过去清洁牙齿, 都用手指或齿木, 也有时将杨柳枝头咬软, 用以蘸药擦牙或揩齿。

1953 年笔者在前热河省大营子村辽驸马卫国王墓的随葬品中见到了两把象牙制的牙刷柄。它和北京故宫太和殿内的其他文物陈列在一起。展品的说明为“骨刷柄”, 它的形状和现代的牙刷很相似, 因为年代久远, 牙刷头部所植的毛束已经消失, 但仍可以看出植毛的痕迹来, 刷柄却很完整, 颜色虽然没有现代的骨制牙刷那样白, 显得发黄, 经与工作人员打听, 他们认为这是象牙制品。

牙刷头部的植毛部有 8 个植毛孔, 分两排, 每排四孔, 孔部上下相通, 植毛部的孔略大些, 背面孔部渐小, 毛束之间均有相等的间隔, 这种间隔可使刷毛容易干燥及不易藏染污物。柄是圆的, 植毛部是扁平长方形, 制法极似现代的标准牙刷, 经过笔者的慎重观察, 才肯定这是两把古代植毛牙刷。

这种牙刷看样子并非当时一般人常用之物, 因发现本牙刷的这座墓葬是辽驸马卫国王的墓葬, 同时出土的还有大量金银制品及很多种其他重要文物<sup>(9)</sup>。

这座辽墓是 1953 年发现的, 1954 年清理出了墓志, 证明这是辽应历 9 年(穆宗)辽驸马卫国王的墓葬, 查应历 9 年是公元 959 年, 为赵匡胤称帝的前一年, 距今已 1,000 多年了。笔者曾在中华口腔科杂志发表过“植毛牙刷是我国发明的”一文, 现在可以推翻此说, 能够用 1,000 多年前的实物来证明我国在辽代, 我们的劳动人民已经能够制造很合理的植毛牙刷了。而国外的植毛牙刷, 是 17 世纪才出现的, 比我

国大致晚 700 多年。植毛牙刷的发明, 是我国在口腔卫生学方面的一个伟大贡献<sup>(10)</sup>

### 四、牙齿脱落后义齿修复

义齿, 也称为假牙。我国宋代已有发明。宋代陆游(1127~1209)的《岁晚幽兴》诗有“卜塚治棺输我快, 染须种齿笑人痴。”之句, 并自注云:“近闻有医以补堕齿为业者。”

同时代的楼钥(1137~1213)著《攻媿集》有“赠种牙陈安上”文谓“陈生术妙天下, 凡齿之有疾者, 易之一新, 才一举手, 使人终身保编贝之美”。

清乾隆时代梁玉绳著《白土集》卷 27 谓“今市肆有补齿铺, 悬牌云镶牙如生, 盖宋以来有之。”并谓“《七修类稿》有种齿说, 与今补齿不同。”而与齿牙再植术相区别。

欧洲在 18 世纪, 才有了用人牙、河马牙、象牙、牛骨等, 用亚麻丝、绢丝、或金银丝等材料结扎在天然牙上制成的齿牙修复体。

从上述口腔科方面的四项发明看来, 也和我国曾发明过指南针、火药、造纸和印刷术一样, 是值得向全世界夸耀的。

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Aconitine was found to be divided into two par-aconitum, i.e., *Aconitum carmichaeli* Debx and *Aconitum Chinense* Paxt (including *Radix Aconiti*, *Aconitum brachypodum* Diels), both characterized as being pungent and hot and extremely poisonous. The first of these mechanisms to be considered is increase in vagus nerve tone and suppression of impulse formation disturbance (passive arrhythmia); the second important mechanism to be considered is enhanced automaticity. This term is used to describe an increased rate of spontaneous discharge from subsidiary or ectopic pacemaker tissue because of its direct intoxicational effects (active arrhythmia).

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### **A Modified Plastic Ring Method for the Quantitative Evaluation of Anti-inflammatory Effect of Drugs**

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The Rudas method was modified by using the plastic ring made of polyvinyl chloride. The outer and inner diameters of the ring were 15mm and 14mm respectively, with a height of 7mm. The plastic ring was embedded in the hypodermis of the back of adult rats under ether anesthesia. After 7-10 days growth of granulation tissue was induced by the rings. Then the animals were killed and their granulation tissues were stripped. The weights of the granulation tissues ( $M \pm SD$ ) were  $561.5 \pm 138.5\text{mg}$  and  $526 \pm 138\text{mg}$  in the control groups. The growth of the granulation tissues was inhibited significantly by hydrocortisone, warm water extract and percolate of taraxacum mongolicum Hand-Mazt because of their anti-inflammatory effect,  $M \pm SD$  was  $106.1 \pm 150.9\text{mg}$ ,  $360.8 \pm 69.9\text{mg}$  and  $231.1 \pm 39.6\text{mg}$  respectively.

The results of this experiment were not influenced by the weight and the sex of animals as well as the room temperature and the amount of food. This method was very simple, cheap, convenient and satisfactory for a semiquantitative evaluation of the anti-inflammatory effect of drugs.

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### **Four Important Contributions to Stomatology in TCM**

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The thesis deals with four important contributions of TCM to stomatology in ancient China.

The first is the use of arsenic for the devitalization of the dental pulp. This was recorded in Jin Kui Yao Lue (Synopsis of Prescriptions of the Golden Chamber) written by the famous physician Zhang Zhongjing of the Han dynasty (206B.C-220A.D). It is 1,500 years earlier than when the American dentist Spooner started to use arsenic to devitalize the dental pulp in 1836.

In 659 A.D. amalgam was mentioned in Tang Ben Cao (Tang Dynasty Canon on Materia Medica) by Su Jing. Later Li Shizhen made a further explanation of its components, characteristics and uses in his Ben Cao Gang Mu (Compendium of Materia Medica) and called it mercuric extracts. In contrast, the mercuric alloy was discovered in the Great Britain by Bell in 1819, 1,000 years later than the Chinese discovery.

In 1953, the tomb of the Wei Prince, son-in-law of a king of the Liao dynasty (907-1125), was excavated in the Dayingzi Village of Rehe (a former province in the north). Among the funeral objects were two ivory tooth brushes. The tomb dated back to 959 A.D.. The tooth brushes were kept in a mug found in a washbasin. These relics are on exhibit in the Museum of Imperial Palace in Beijing. The earliest European tooth brushes came into being in 1722, as was described in the writings of a Frenchman, Fauchard (1674-1781). This is about 700 years later than the period when these tooth brushes were introduced.

The famous poet Lu You (1127-1209) of the Song dynasty and his contemporary Lou Yue (1137-1213) both mentioned false tooth in their works. During the times of Qian Long, an emperor of the Qing dynasty (1644-1911), the author of Bai Shi Ji (Notes of a Fool Scholar) wrote the following, "In the market place there are now shops where one can get false teeth inserted. The advertisement says that false teeth can match the natural ones. It is held that such treatment has been given since the Song dynasty." This shows that insertion of false teeth has been popular in China since the 12th century.

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