

MECHANISM OF ACTION OF AGNIKARMA

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ABSTRACT

Agnikarma is an important therapeutic measure in Ayurvedic system of medicine, which has got worldwide popularity because of its simple administration and efficacy in variety of disorders. It is unique form of therapy performed with the help of agni which has been described to be the superior than ksharkarma, as the disease treated by it do not relapse and moreover those incurable by medicines (bhashaja), operations (shastra) and caustics (kshara) yield to it. This is subtype of anushastra karma. Present article through light on mechanism of action of agnikarma technique and tried to give scientific explanation for its therapeutic utility.

Key Words: Agnikarma, Shalyatantra.

INTRODUCTION

The procedure which is performed with the help of Agni for treating the disease is called as Agnikarma¹. Cauterization (agnikarma) treatment has been described to be superior to the caustic alkali (kshara karma), as the disease treated by it do not relapse and moreover those incurable by medicines (bhashaja), operations (shastra) and caustics (kshara) yield to it^{2,3}.

According to Vagbhata Acharya, the shastra (knife), kshara (alkali) and Agni (fire) are chief weapons of the lord of death; hence the physician should administer them with great care^{4,5}.

There is another reference which says that daha (agnikarma) constricts the siras and help in cessation of the bleeding⁶. Agnikarma also told in the context of sterilization⁷.

It is mainly indicated in conditions such as presence of severe pain in skin, muscle,

vein, ligament, joint and bone, caused by aggravated vata, wound with raised, hard and numbed granulation; in granthi (cyst), piles, tumors, fistula in ano, apache, shleepada (elephantiasis), charmakeela (wart), tilakalaka (mole), antravruddhi (hernia), and disease of joints and cutting of blood vessel etc. and also in nadi (sinus) and excessive haemorrhage⁸.

Ayurveda is a "Life Science" but yet scientific approach is lacking. Although with the help of intense researches in Ayurveda in past few decades a stupendous knowledge come in light but still a long way is to be covered for unanimously endorsement of Ayurveda as "Life Science". Considering the above concept in view, here an attempt has been made to search out the probable mechanism of *Agnikarma* incorporating scientific facts and knowledge obtained from previous research works.

PROBABLE MODE OF ACTION

According to Ayurveda⁹:

1. Effect on dosha: Agnikarma is considered as best therapy for vata and kapha dosha because Agni possesses ushna, sukshma, tikshna guna aashukari guna which are opposite to vata and kapha. It removes srotovarodha and increase the rasa rakta samvahana to the affected site.

2. Effect on dhatu:

Therapeutic heat transferred by Agni karma increase the dhatwagni, so metabolism at dhatu level increases which helps to digest the ama dosha.

Possible Scientific Explanations

1. Gate control therapy¹⁰:

Pain sensations are transferred by two types of fibers. "A" fibres (stimulated by heat, cold and touch) and "C" fibers (stimulated by pain). Here the gate mechanism is blocked by stimuli from A fiber, so the pain will not be felt.

2. Increased Metabolism¹¹:

This is in accordance with Van't Hoff's statement that any chemical change capable of being accelerated by heat is accelerated by a rise in temperature. Consequently heating of tissues accelerates the chemical changes, i.e. metabolism. The increase in metabolism is greatest in the region where most heat is produced, which is in the superficial tissues. As a result of the increased metabolism there is an increased demand for oxygen and foodstuffs, and an increased output of waste products, including metabolites.

3. Effect of heating on nerves¹²:

Heat appears to produce definite sedative effects. The effect of heat on conduction has still to be thoroughly investigated but a

physiological explanation has been offered by Sidney Licht (1965), there is evidence that any sensory excitation reaching the brain simultaneously with a pain excitation results in the pain impulse being more or less attenuated.

Pain receptors of skin and motor end plate stimulated at 45°C. Pathway for pain and thermal signals run parallel and ends into same area but only stronger one can felt. Therefore complete exclusion of pain impulse by heat occurs.

4. Effect on cardiovascular system:

Increases blood supply: As a result of the increased metabolism, the output of waste products from the cells is increased. These include metabolites, which act on the walls of the capillaries and arterioles causing dilatation of these vessels. In addition, the heat has a direct effect on the blood vessels, causing vasodilatation, particularly in the superficial tissues where the heating is greatest. Stimulation of superficial nerve endings can also cause a reflex dilatation of the arterioles. As a result of the vasodilatation there is an increased flow of blood through the area, so that the necessary oxygen and nutritive materials are supplied and waste products are removed. The superficial vasodilatation causes erythema of the skin which, unlike that produced by ultraviolet irradiation, appears as soon as the part becomes warm and begins to fade soon after the exposure of heat ceases. With infra-red radiation the erythema may be mottled in appearance, and following repeated exposure to infra-red rays there may be an increase in pigmentation, this may be observed in the legs of individuals who habitually sit close to the fire.

5. Fall in blood pressure: If there is generalized vasodilatation the peripheral resistance is reduced, and this causes a fall in blood pressure. Heat reduces the viscosity of the blood, and this also tends to reduce the blood pressure.

6. Effect on muscular system:

Rise in temperature induces muscle relaxation and increases the efficiency of muscle action, as the increased blood supply ensures the optimum conditions for muscle contraction.

7. Effect on sweat glands:

There is reflex stimulation of the sweat glands in the area exposed to the heat, resulting from the effect of the heat on the sensory nerve endings. As the heated blood circulates throughout the body it affects the centres concerned with regulation of temperature, and there is increased activity of the sweat glands throughout the body. When generalized sweating occurs there is increased elimination of waste products.

8. Effect on temperature:

As blood passes through the tissues in which the rise of temperature has occurred, it becomes heated and carries the heat to other parts of the body, so that if heating is extensive and prolonged a general rise in body temperature occurs. The vasomotor centre is affected, also the heat regulating centre in the hypothalamus, and a generalized dilatation of the superficial blood vessels results.

CONCLUSION

Agnikarma therapy is result oriented to local Vataja and Kaphaja disorder and it is the ultimate measure for haemostasis. It is an ambulatory treatment with minimum expense. *Agnikarma* works on the law of

pain management. It works on doshadhatu level, CVS, CNS, muscular system, tissue regeneration and sweat glands. As the disease treated by it do not relapse and moreover those incurable by medicines (bheshaja), operations (shastra) and caustics (kshara) yield to it and it is rapid, efficient to apply, well tolerated by patients and clearly efficacious.

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