

# Pineal Gland, Some Secrecy Yet to Clear Towards its Metaphysical Connection: A Review Study

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## Abstract

The pineal gland was remained and unexplained inexplicable and the last of the endocrine gland to be discovered by the scientists, hence long considered odd and mystifying. Still it is not fully understood as some underground secret of the pineal gland is still a bit of mystery and yet to be clear. Although medical science has immeasurably progressed, even then there are a few things and some mysterious facts about this critical organ the pineal gland we might not have known. The evidence from the structural and developmental biology suggests that pinealocytes possess a common evolutionary predecessor with the retinal cells. It collects information related to light through the eye and then the melatonin produced by the pineal gland directs hormonal messages to the various parts of the body. The pineal gland is recognized today as performing a great part in controlling all aspect of human functions as the regulator of regulators. It establishes our sleep-wake cycles and regulates the major physical processes like growth, metabolism and sexual development by releasing and controlling the hormones. Apart from its documented special effects on reproductive system, body growth, body temperature, blood pressure, motor activity, sleep, tumor growth, mood and the immune system, it also seems to be a definitive factor in longevity. The calcified pineal gland by disturbing the circadian rhythm affects the nature and the quality of the sleep; reduces mental performance, sexuality and cognitive functioning; and finally makes the body prone to disease and disturbed overall personality. Decalcification of the pineal gland is an imperative part of our awakening and development; as doing so intensifies our perception and awareness of realism and for higher mental performance. Also it is very important and necessary for all the achievers interested in a state of mastery and blissful life; and seeking to be converted into more evolved humans.

**Keywords:** Metaphysical; Mysterious; Melatonin; Circadian rhythm; Decalcification.

## Introduction

The pineal gland was remained unexplained and inexplicable and the last of the endocrine glands to be discovered by the scientists, hence long considered odd and mystifying. Still it is not fully understood as some underground secret of the pineal gland is still a bit of mystery and yet to be

clear. Although medical science has immeasurably progressed, even then there are a few things and some mysterious facts about this critical organ the pineal gland we might not have known. The pineal gland is significant since the ancient time. The pineal gland had been documented as very noteworthy minute organ in the human body since the ancient Greek time. Although anatomically

its location had been described in the writings of Claudius Galen, a Greek doctor and philosopher of Pergamum (an ancient Greek city) during 3<sup>rd</sup> century, but the pineal gland was not almost fully understood until the 20<sup>th</sup> century.

The pineal gland or conarium, or epiphysis cerebri, is a small endocrine gland near the center of the brain, between the two hemispheres in most of the vertebrates.<sup>1</sup> Although the pineal gland is located in our brain, it is actually a vital part of the endocrine system and regulates major physical processes like growth, metabolism and sexual development by releasing and controlling the hormones. The scientists have come to know that the pineal gland synthesizes a key hormone melatonin from the neurotransmitter serotonin. We have understood more about the functions of the pineal gland that melatonin production establish our sleep-wake cycles and is entirely determined by the recognition of light and dark. It has also been understood that the retina conveys these signs to the hypothalamus in the brain and from here these signals are sent to the pineal gland. If the retina detects more light then the less melatonin is produced by the pineal gland and vice versa. Melatonin level is maximum or highest in the dark at night that helps one sleep.

The pineal gland is named on the basis of its shape resemblance with the pinecone. The pineal and pinea terms are derived from the French and Latin respectively and meaning a pinecone. The pineal gland is a tiny little gland about one third of an inch in size and situated deep in the centre of the brain. The pineal gland receives a sympathetic innervation from the superior cervical ganglion. A parasympathetic innervation from the pterygopalatine and otic ganglia is also present.<sup>2</sup> The pineal gland connects the endocrine and the nervous system in the body. The pineal gland transforms the neural signals of the sympathetic nervous system into the hormonal signals of the endocrine system. The pineal gland is not affected by the blood-brain barrier, unlike almost rest of the brain and as not cut off from the body by the blood-brain barrier.

## Discussion

The old hypothesis related to the pineal gland has not been really replaced. The relationship of the pineal gland with the mind and the soul is still a bit of mystery and yet to be cleared. Rene Descartes a French philosopher and mathematician in the 16<sup>th</sup>-century had described this pineal gland as the

principal seat of the soul. He also considered it the place in which all our thoughts are formed and miniature animal strength of mind is like a very fine wind or an extremely lively and clean glow, providing life into the numerous minute arteries surrounding the pineal gland. This was likely due to his individual understanding about the anatomy and the physiology. On the other side the scientists now credit and acclaim that function to the neocortex of the brain and the academic philosophy amongst his colleagues considered the pineal gland as a neuroanatomical structure with no individual metaphysical qualities; science considered it as one endocrine gland in the body.<sup>3</sup>

The pineal gland was commonly described as the third eye or representing the third eye on the basis of many grounds like its situation deep in the midpoint of the brain and its association to the light and its pathways. Mystic and obscure spiritual tradition and civilization propose that it serves as a metaphysical connection between the bodily and spiritual holy worlds.<sup>4</sup> The pinealocytes in the pineal gland in many non-mammalian vertebrates have an obvious semblance and similarity with the photoreceptor cells of the eye. The evidence from the structural and developmental biology suggests that pinealocytes possess a common evolutionary predecessor with the retinal cells.<sup>5</sup> In the world, there are two religions the Hinduism and the Buddhism which use the third eye as representation for the enlightenment. The third is referred to as the eye of knowledge in Indian custom and belief. The East Asian and the Indian iconography have shown the third eye as a dot, eye or mark on the forehead of deities and other enlightened persons. The mark tilak on the forehead between the eyebrows of Hindus is a representation of the third eye, which is also seen on forehead of Lord Shiva. The Buddhists consider the third eye as the eye of consciousness that represents the vantage point from which enlightenment or Buddhism beyond one's physical sight is obtained.<sup>6</sup>

The tiny pineal gland is like the light measuring device in our body. It collects information related to light through the eye and then directs hormonal messages to the various parts of the body. The messages transmission to the body is finally concluded about the length of daylight and is commonly called the circadian rhythm. In this manner the pineal gland notices the body as to whether any particular duration of time is light or dark, about the climate or season around and longer or shorter days or nights. To understand what does the pineal gland do practically, if we eliminate our self for a short time from the present environment

and assisting objects, clocks and calendars we will appreciate without delay about the fundamental role of pineal gland in maintaining our connection and correlation with the nature and environment. The pineal gland maintains light sensitivity and is responsible for the construction and release of dimethyltryptamine (DMT) an entheogen; which is possibly excreted in the large quantities at the moments of birth and death.<sup>7</sup>

The secretory function of the pineal gland is only understood to some extent. Its situation deep central in the brain suggested to philosophers all over history that it possesses particular scrupulous importance. This grouping and combination led to its being regarded as an anonymous or mystery gland with mystical, metaphysical and occult theories and assumptions surrounding its perceived functions. The pineal gland was formerly believed to be a vestigial remnant or residue of a larger organ. The melatonin produced by the pineal gland is also significantly involved in regulating the reproduction and sex organs. The melatonin reduces the release of reproductive hormones gonadotropins from the pituitary gland and so affects growth and activities of male and female reproductive organs. In this manner, the melatonin and therefore the pineal gland control the sexual development and reproduction in the body. The melatonin also Regulates the bone mass in the body.<sup>8</sup> (Fig. 1).

Jacob Liberman has explained in 'Light: Medicine of the Future' reviewed in the United States and United Kingdom in 2017 and 2019, that in animals the pineal gland's size differs on the basis of the animal's location. He claimed, the animals habitual of living nearer to the equator possess a smaller pineal gland than the animals living towards progressively North or South poles. The more the animal needs to be adapted to a changing climate and environment, the larger the pineal gland in size. In Journal of Pineal Research, the pineal gland has been claimed to play a significant role in maintaining body temperature. Liberman has commented even in extensive manner that the pineal is recognized today as performing a great part in all aspect of human functions as the regulator of regulators. Apart from its documented special effects on reproductive system, body growth, body temperature, blood pressure, motor activity, sleep, tumor growth, mood and the immune system, it also seems to be a definitive factor in longevity. Researchers have found evidence that melatonin produced by the pineal gland can have a positive impact on our heart and blood pressure and may be

used to treat cardiovascular disease. Lower pineal gland volume and its secretion may increase our risk of developing schizophrenia and other mood disorders. Some researchers suggest that there is a connection between impaired pineal gland function and cancer risk. A recent study evidenced that lowering pineal gland function through overexposure to light led to cellular damage and increased risk for colon cancer.

The pineal gland synthesizes a hormone called melatonin and being endocrine gland secretes or pours it directly into the blood. The melatonin being a serotonin-derived hormone modulates the sleep patterns. Melatonin production is stimulated by darkness and inhibited by light.<sup>9</sup> The melatonin by inhibiting the release of some reproductive hormones from the hypophysis cerebri affects the reproductive system both in males and females. The pineal gland synthesizes more melatonin in children than the adults to inhibit premature sexual development or excessive growth of reproductive organs. The pineal gland gradually shrinks and gets smaller after puberty and so releases less amount of melatonin. How much melatonin the pineal gland synthesizes and secretes is determined mainly by the amount of light exposed to the eyes. Less melatonin is secreted in the daylight hours and an increased secretion occurs during the night.

Although the pineal gland is a part of the brain but the blood-brain barrier doesn't separate the pineal gland from the body and it has a tremendous amount of blood supply, second to the kidneys only. The calcification of the pineal gland is typical and characteristic in young adults and has been found in the children as young as two years of age period. The calcified gland is frequently noticed in the skull x-rays. The calcification rates differ commonly by country to country and correlate with the increasing age.<sup>10</sup> The calcification of the pineal gland is connected with corpora arenacea or brain sand. Pineal gland calcification is detrimental and disadvantageous to its capability to produce melatonin<sup>11</sup> and associated with the gradual decrease in the mental performance. British scientist Jennifer Luke in 1990s discovered a high concentration of fluoride in the pineal gland of her subjects. Later it is found that the fluoride accumulates in the pineal gland more than any other part of the body. This accumulated fluoride commonly forms the phosphate crystals and creates a hard shell or shield around the pineal, this process is called calcification.

Human and animal are exposed to fluoride mainly via water, food and air. The natural fluoride

concentration varies strongly and depends on the local geological structure and also on local/regional human activity. In many regions of the world, including Europe, fluoride in ground and surface water sometimes exceeds the level considered to be safe for humans.<sup>12</sup> The exposure of fluoride chemicals in fluoridated water, tooth pastes, pesticides, herbicides, air conditioners, freezers, computer screens, fluorescent light bulbs, plastics is the main cause of calcification of the pineal gland. The research studies have shown that as pineal gland calcification advances there is gradual decrease in synthesis of melatonin which disturbs the sleep-wake cycle and maintenance of the circadian rhythm and the children achieve pubertal age earlier. The animal studies have found the decreased melatonin secretion on fluoride exposure resulted into their accelerated sexual development. Numerous studies have claimed the hazards of fluoride exposure like calcification of the pineal gland, arthritis by calcification of cartilages, kidney diseases, low IQ and brain damage, male and female infertility, weak skeletal health by skeletal fluorosis, cardiovascular inflammation and atherosclerosis and increased lead absorption. Scientist Paul Connett and other scientists in their over 50 studies have claimed that fluoride harms our brain, bone kidney etc. and reduces human intelligence. The Biological Trace Element Research study in November 2019 claimed that feeding male rats with fluoride free diet showed stimulation of their pineal growth.

No doubt, in many ways the pineal gland connects our body with the nature. When the pineal gland is calcified, body loses its balance with nature due to lacking proper biological adjustment and improper brain execution. The calcified pineal gland by disturbing the circadian rhythm affects the nature and the quality of the sleep; reduces mental performance, sexuality and cognitive functioning; and finally makes the body prone to disease and disturbed overall personality. We know that the sleep is a very important vital biological natural function and is designed to repair and restore us every night. With a calcified pineal gland we join a race of beings mostly disconnected from instincts, from planet and from each other. Also with this non-functioning pineal gland the media messages will more easily program us, false belief systems will shape us, poor decisions will plague us and so will limit our marvelous excellent potential. Decalcification of the pineal gland is an imperative part of our awakening and development; as doing so intensifies our perception and awareness of realism and for higher mental performance. Also it

is very important and necessary for all the achievers interested in a state of mastery and seeking to be converted into more evolved humans.

So, to avoid these consequences of a calcified pineal gland there is need to avoid our pineal gland to be calcified, then only we can prevent the decreased production of melatonin, throwing off the circadian rhythm and disordering the reproductive system. We require three things, the elimination of some foods and ecological reasons to avoid additional calcification; the removal of the already existing calcification of the pineal gland and the creation of a surrounding environment to support normal pineal gland execution. The three primary causes of calcification are the chlorine, the synthetic calcium and the fluoride. The chlorine in virtually all of our public water supply is also with calcifying special effects on the pineal gland. The calcium is necessary for the strong bones, but a Harvard study has linked the calcium supplements in their synthetic forms with the calcifying effect on the pineal gland and some other sites in the body, also with dementia and more risk of heart attack in aged women. For the additional calcium in diet, some organic foods like spinach, kale, broccoli, sesame seeds, chia seeds and quinoa can be consumed. Also mega food calcium, magnesium and potassium can be considered as pairing magnesium with calcium directs the calcium into the bones in place of the brain.

#### Pituitary and Pineal Glands

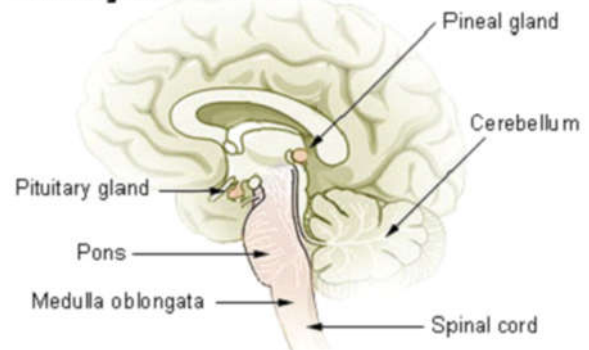


Fig. 1: Pituitary and Pineal Glands.

A research has shown that the young tea leaves have more antioxidants and less fluoride levels than older leaves; and it is the reverse with the older tea leaves. White teas have the least fluoride and most antioxidants. Mostly non-stick cookware coatings contain perfluorooctanoic acid (PFOA) and perfluorinated compounds (PFCs) which are fluoride-based substances so they are toxic and calcifying. This cookware can be replaced with stainless steel, ceramic, glass or cast iron cookware.

All processed foods possess some form of synthetic calcium like calcium phosphate, dicalcium phosphate and calcium carbonate and lead to calcification of pineal gland. The sulfuryl fluoride used in food processing to fumigate the processing tools as well as the food contaminates the food with fluoride. So for decalcifying pineal gland, processed foods should be replaced by the unprocessed organic foods. Careful consumption and exposure to these things will stop auxiliary calcification in the pineal gland. The main steps to be followed for decalcifying the pineal gland include using fluoride filters to minimize fluoride intake from the water; using alternative, fluoride-free toothpaste; stopping taking calcium supplements with synthetic calcium; avoiding using nonstick cookware with PFOA and PFC; eating organic whole foods; and avoiding processed foods and foods sprayed with pesticides.

The pineal gland is believed to be the organ of supreme universal connection and its importance come into sight in every ethnicity all over the world. The chakra system is the means the spirit moves within the physical body. The chakras are like the wheels of energy to remain balanced and experienced active only for the optimal finest human function. In standstill situation in the chakra system, the physical body gets affected with unease, depression and various illnesses.<sup>13</sup> The chakras are energy centers in the organs but not confined to a specific location. For instance, the heart chakra lies in the center of the chest while the physical heart is on the left side of the midline of body. Similarly, the third eye chakra lies in the center of the head at the pineal gland. The pineal gland is well-known as the third eye or Ajna chakra in the Hinduism and a closed Ajna chakra is said to develop confusion, uncertainty, cynicism and pessimism. Every esoteric and mysterious tradition heralds the third eye as our association to spirit and as a space between human and God. With an effervescent and vibrant third eye, we find our highest source of ethereal energy experiencing a blissful and joyful life called the condition of Enlightenment or Buddhism.

## Conclusion

The pineal gland collects information related to light through the eye and then the melatonin produced by the pineal gland directs hormonal messages to the various parts of the body. It establishes our sleep-wake cycles and regulates the major physical processes like growth, metabolism and sexual development by releasing and controlling the hormones. Apart from its documented special

effects on reproductive system, body growth, body temperature, blood pressure, motor activity, sleep, tumor growth, mood and the immune system, it also seems to be a definitive factor in longevity. The pineal gland is recognized today as performing a great part in controlling all aspect of human functions as the regulator of regulators. The calcified pineal gland by disturbing the circadian rhythm affects the nature and the quality of the sleep; reduces mental performance, sexuality and cognitive functioning; and finally makes the body prone to disease and disturbed overall personality. Decalcification of the pineal gland is an imperative part of our awakening and development; as doing so intensifies our perception and awareness of realism and for higher mental performance. The pineal gland is believed to be the organ of supreme universal connection and its importance come into sight in every ethnicity all over the world. The pineal gland is well-known as the third eye or Ajna chakra. With an effervescent and vibrant third eye, we find our highest source of ethereal energy experiencing a blissful and joyful life called the condition of Enlightenment or Buddhism. Also it is very important and necessary for all the achievers interested in a state of mastery and seeking to be converted into more evolved humans.

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