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Review Article

Major Self-Mutilations: Castration and Enucleation

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Abstract

Pathological self-mutilation has been prevalent throughout history and in many cultures. Major self mutilations - autocastration, eye enucleation and limb amputation - are rarer than minor self-mutilations like wrist cutting, head banging etc. Because of their gruesome nature, major self-mutilations invoke significant negative emotions among therapists and caregivers. Unfortunately, till date, there is very little research in this field. In the absence of robust neurobiological understanding and speculative psychodynamic theories, the current understanding is far from satisfactory. At the same time, the role of culture and society cannot be completely ignored while understanding major self-mutilations. Literature from western culture describes this as an act of repentance towards past bad thoughts or acts in contrast to the traditional eastern culture that praises it as an act of sacrifice for achieving superiority and higher goals in the society. The authors present here two cases of major self-mutilation i.e. autocastration and autoenucleation both of which occurred in patients suffering from schizophrenia. They have also reviewed the existing literature and current understanding of this phenomenon (German J Psychiatry 2010; 13 (4): 164-170).

Keywords: self mutilation, autocastration, autoenucleation

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Introduction

Self-mutilation (SM) refers to the deliberate, direct destruction or alteration of body tissue without conscious suicidal intent (Favazza 1998). Despite having a rich history, self-mutilation has only recently become the object of focused psychiatric scrutiny. Karl Menninger (1938) classified this behaviour into four categories: neurotic, psychotic, organic and religious. This classification was not widely accepted. The next attempt at classification was by Pattison and Kahan (1983) who examined self-damaging behaviours enticing three variables: (a) *Direct/indirect* variable, which concerns time and awareness. Direct self-damaging behaviour occurs in a brief time span, awareness of the effects of the behaviour is present and there is a conscious intent to harm one-self. Indirect self damaging behaviour occurs over an extended period of time, or any conscious intent. (b) *Lethality* variable, which considers the degree of possibility that the behaviour will be fatal (c) *Repetition* variable, which refers to single versus multiple episodes of the behaviour. This approach helped to clarify some of the linguistic and conceptual confusion about self-mutilation. Favazza and Rosenthal (1993) divided self-mutilation into three observable categories based on tissue destruction and the rate and pattern of behaviour. These are *Major*, *Stereotypic* and *Superficial/Moderate*. The last category has three subtypes i.e. compulsive, episodic and repetitive. Major self-mutilations are eye enucleation, castration and limb amputation. Major self-mutilations are not specific to any disorder but may be a part of many disorders like psychosis, substance intoxications, encephalitis, transsexualism, congenital sensory neuropathy, schizoid personality disorder, mental retardation and residual schizophrenia. They tend to occur suddenly with a great deal of tissue damage. These acts must be distinguished from those by which patients attempt suicide by cutting deeply through blood vessels, self-immolation, and other gruesome acts.

Stereotypic self-mutilation refers to acts such as head banging, hitting, orifice digging, arm hitting, throat and eye gouging, self biting, tooth extraction and joint dislocation. Stereotypic self-mutilation is most commonly seen in persons with mental retardation. In addition, the behaviors may be part of autistic disorder, acute psychotic states, Lesch-Nyhan and Tourette syndromes, and obsessive compulsive disorder. They may be also be induced by psychoactive drugs such as amphetamines (Favazza & Rosenthal, 1993).

In contrast, the term deliberate self-harm connotes a slightly different meaning from the terms major self-mutilation and the stereotypic self-mutilation. It is otherwise called superficial or moderate self-mutilation. This behavior differs from the other two by the lesser severity and gruesomeness of the act and the absence of stereotypy. A wide range of behaviors characterize this pattern. These include trichotillomania, nail biting,skin picking and scratching, skin cutting, carving, burning, needle sticking, bone breaking and interference with wound healing. This behavior is much more common clinically and occurs in a variety of settings including substance abuse, eating disorders, posttraumatic stress disorder, major depression, anxiety disorders, schizophrenia as well as each of the personality disorders, especially borderline personality disorder. Deliberate self-harm occurs in non-clinical populations as well. Approximately 4% of the general population may have reported a history of deliberate self-harm. There is evidence that deliberate self-harm has become more prevalent in recent years (Klonsky et al., 2003). Superficial or moderate self-mutilation is some time sub classified into compulsive types and the repetitive/episodic types (Favazza and Rosenthal, 1993).

We describe here two interesting cases of major self-mutilation and present the literature review and current understanding of this interesting phenomenon.

Case 1: Autocastration

SK, a 25 year old, graduate single male was taken to the emergency urology service late at night as he had amputated his genitalia with a kitchen knife. On examination, the penis and left testis were completely severed whereas the right testis was hanging from the scrotal sac. The severed part of the penis was intact and brought by relatives. Patient looked calm and quiet. This seemed completely incongruous to the severity of the act. He did not behave abnormally or show any resistance during surgery or in the post surgery period. Following successful re-implantation surgery, a referral for detailed psychiatric examination was made. Patient hailed from a rural background and was third among four siblings. There was no family history of any psychiatric illness or substance abuse. Both parents were staunch believers of magico-religious faith healing. Premorbidly, he was described to be submissive, had very few close friends. Around 21 years of age, the patient was noticed to be withdrawn and remaining aloof most of the time. After 3-4 months, he started voicing odd belief that there is a statue of God in my stomach which is making me sweat profusely. He held this belief firmly. Later he complained of hearing voices of outsiders discussing him, passing derogatory comments on his activities and his thoughts being known to outsiders against his wish. He started to have hallucinatory behaviours like talking and smiling to self. His self-care, occupational functioning and sleep were disturbed. After one year of the above symptoms, he was seen by a psychiatrist and was diagnosed to have paranoid schizophrenia (295.30) according to DSM-IV. Initially he was started on trifluperazine, which was later changed to risperidone. He improved and was doing well for the next one and half years when his family discontinued medicine and went for magico-religious healing. After a month of discontinuation of antipsychotics, his symptoms relapsed and he complained of hearing voices in isolation. The voices would say that there was a pact between the Indian and US governments and as a result, he would be sent to US for manual work. There he would be forced to have sexual intercourse with HIV infected females, following which he would be infected with HIV. He was very distressed by these voices and believed that sexual intercourse before marriage, particularly with an HIV infected person, was a great sin. He feared that he would be ostracized from his community. On the fateful day, the voices commanded him to chop off his genitalia to get respite from the above problem. At midnight, he went to the kitchen and slashed his penis from its root. He threw the severed penis at the back of his house. He did not complain of pain. His brother found his dress soaked in blood and on enquiry, the patient told the sequence of events to him. He was admitted and started on olanzapine and family was psychoeducated. He became asymptomatic over the next three months and was maintaining well at the time of last follow up.

Case 2: Autoenucleation

AR, a 24 yr graduate single male had been diagnosed to have DSM-IV paranoid schizophrenia (295.30) since the age of eighteen. He was admitted for relapses thrice previously. His symptoms dated back to his college days when he started believing that he was in love with a girl. He strongly believed, without any verification, that she harboured similar feelings towards him. After two to three months, he suspected that his friends had a sexual relationship with that girl. He argued and confronted them. He also had auditory hallucinations of the friends mocking him and discussing his relationship with the girl. He was restless and had disturbed sleep. Occasionally he complained of outsiders coming to know his thoughts. With time, he became very irritable over trivial issues and broke household items. He was repeatedly threatening to kill his father. He continued to mutter and smile to self in response to voices. He strongly believed himself a "pure soul" and that his mission was to help other people. As per the patient, he had very often seen the girl gossiping with other boys whom he considered immoral. He was very disturbed by this but not able to express his feeling to them. He considered that his love was true love but had no evidence to prove the same. He thought that if he could take out his own eye, then it would be evidence of his true love as it was with this eye that he had seen the girl and fallen in love. He harboured the idea that his "*pure eye*" (part of a pure soul), which had seen these events, would become impure. He believed that by taking out his eye, the pureness

of his soul would be restored. He became very restless and anxious. Parents also noticed that he would fiddle with his eye but did not give importance to it. During this period, he once slashed his forearm without giving any satisfactory reason. On the fateful day, in the afternoon, he went to another room and enucleated his right eye by using his thumb, index and middle fingers. Immediately after the act, he had great relief and went to his father expressing the same. He said that he had become a new person and his soul had become purer. He never complained of any pain or discomfort during or after the act. He was immediately brought to the hospital and admitted. Later an artificial eye was implanted for cosmetic reasons. Upon referral to the psychiatrist, he was started on a course of electroconvulsive therapy. Later clozapine was started and increased up to 550mg per day. After this although there was no similar attempt, he would at times verbalize delusions and odd ideas. This time he was admitted for another exacerbation during which injection depot zuclopenthixol was added with clozapine. Following this, his symptoms were controlled. There was no family history of any mental illness or any history of substance use. Patient's physical investigation including serum uric acid and neuroimaging were normal.

Discussion

The above two cases are acts of major self-mutilation which are characterized by sudden acts associated with major tissue damage, bleeding and are messy in nature (Favazza 1998). In the first case, patient acted on his hallucination whereas in the second case, the possible reason might have been his delusional beliefs. In both cases, the self-mutilation was associated with a great degree of satisfaction and containment. The calmness exhibited by many other similar cases described in literature suggests that the behaviour may resolve or more likely temporarily pacify unconscious conflicts (Favazza 1998).

Autocastration (Genital self-mutilation)

Historically male genital self-mutilation (GSM) was recorded in Greek mythology, where the beautiful god Eshmun castrated himself to evade the erotic advance of his mother Astrona. Thereafter it was known as *Eshmun Complex* (Lewis 1931). To be specific the term *Eshmun complex* was used to describe the psychodynamics of patients who actually or symbolically castrated themselves as an expression of incestuous feeling. The first reported case in English literature was by Strock in 1901(Eke 2000). Between 1900 and 1977, Evins et al. (1977) identified fifty-one reports of GSM and in 1996 it was estimated that ninety-eight cases of male GSM had been reported as per different case reports (Romilly and Isaac, 1996). Nakaya (1996) in same year found 110 reported cases. On an average, 3.1 cases per year were described in the literature. GSM seems to be a global phenomenon across racial groups, cultures and religions. Males far outnumber females and the age of the reported patients range from 6 to 66 years with predominance in third and fourth decades (Schweitzer 1990; Blacker and Wong, 1963).

The type and extent of GSM varies in different patient groups. The severest extent recorded is the total amputation of penis, scrotum and testes (Kenyon and Hyman, 1953). The extent or severity of mutilation is similar between psychotics and non-psychotics (Romilly and Isaac, 1996; Greilsheimer and Groves, 1979; Aboseif et al., 1993). However, persons with sexual conflicts and guilt feelings were more likely to have severe injury than those without (Nayaka 1996).

Majority (77%) of cases have psychosis and perform the act under psychotic experiences involving religiosity, hallucinatory voices, and delusions of incarnation or based on a mythological character. In few cases, the act of autocastration preceded the onset of a full-blown schizophrenic episode (Myers and Nguyen, 2001; Duggal et al., 2002). The eponym Klingsor Syndrome has been described for GSM associated with religious delusions (Schweitzer, 1990; Bhargava et al., 2001). Similarly, in most of the western literature, two passages in the Holy Bible (Mathew 19:12 2. Matthew 18:8) have been cited to justify such acts (Greilsheimer and Groves, 1979; Aboseif et al., 1993; Waugh1986).

The associated motives vary across cases and it is estimated that $\geq$ 10% of self-mutilations intend suicide and the recognition or incidence of this motive is increasing (Romilly and Isaac, 1996). It is believed by many people that amputation of male phallus is fatal and has been suggested that GSM among Chinese be considered as a suicide attempt (Conacher et al., 1991; Thompson and Abraham, 1983). Yearning for sympathy may occasionally be the motive in grief-stricken patients (Thompson and Abraham, 1983). Other motives are less obscure: *an avowed anti circumcisionist mutilated his penis while trying to reconstruct his previous circumcision* (Walter and Streimer, 1990). One patient was reported to have carried out bilateral orchidectomy to prevent alopecia. (Gleeson 1993). GSM has also been associated with unresolved sexual conflicts. A group of transsexuals amputated their genitals in anticipation of a change of policy on sexual reassignment surgery (SRS) in Canada (Conacher and Westwood, 1987). Another impatient transsexual sequentially amputated his left testis and finally his penis over a period of 9 months in a vain effort to secure SRS (Rana and Johnson, 1993). In the presence of substance abuse, the definition of the motive for GSM is difficult to determine (Aboseif et al., 1993; Conacher et al., 1991).

Interestingly there are different ways in which the amputated part is disposed off. Most patients show no interest in their amputated parts, although some patients who have sought help after mutilation take the amputated organs with them (Greilsheimer and Groves, 1979). In one bizarre case, a 51 year old man repeatedly practised GSM and ate the mutilated parts. On the last occasion, after bleeding to death, his penis was recovered from his colon at the time of autopsy (Koops and Puschel, 1990).

Traditionally, it has been difficult to predict the act of GSM. Blacker and Wong (1963) identified six risk factors in relation to male GSM i.e. absence of competent male figure in formative years, over controlling mothers who encouraged

masochistic behaviour in their sons, pathological feminine associations in the male child, repudiation of body image (specifically the penis), unresolved sexual conflicts and anxiety and guilt feelings.

Auto-Enucleation

In ancient mythology, the eye has been described as the gateway to the soul and its sacrifice is associated with gain of other rewards. According to ancient Nordic mythology, god Odin sacrificed one of his eyes in order to drink from the spring of Mimir, whose water contained wisdom and knowledge (Grapplin 1965). Oedipus, the king of Thebes, killed his father and married his mother. Later repenting for this incest, he gouged out his own eyes and thereafter auto enucleation came to be known as "Oedipism" (Khan et al., 1985).

Self-enucleation was first described by Bergaman in 1846 (Khan et al., 1985). In 1976, McLean and Robertson (1976) reviewed the medical literature and found only fourteen such cases. Witherspoon et al. (1989) identified 85 cases of severe ocular self-mutilation in medical literature and 46 of those were self-enucleation. Thirty four patients in this series had religious justifications for their actions and 21 patients had sexual justifications (Witherspoon et al., 1989). In a literature search from 1980-1993, Kennedy and Feldmann (1994) reported 41 cases of self inflicted eye injury out of which 16 are of pure enucleation.

The majority of reported cases occur in young to early middle-aged males. Most are suffering from chronic schizophrenia (Patton, 2004; Suresh Kumar et al., 2001; Koh and Yeo, 2002; Yucel and Ozkan, 1995; Buhrich and Hayman, 1994). Self inflicted eye injuries commonly occur during episodes of auditory and visual hallucinations. The content revolves around religious and sexual ideation and in western literature frequently reported to be associated with the Biblical admonitions (Kennedy and Feldmann, 1994). Other psychiatric conditions include obsessive compulsive disorders, depressive disorders and borderline personality disorder (Stinnett and Hollender, 1970; Rao and Begum, 1996; Goldsmith, 1973). Other conditions like encephalitis, epilepsy, and frontal lobe encephalomalacia are also described in literature (Goodhart and Savitsky, 1933; Soebo 1948; Waldfogel et al., 1994). Use of alcohol, stimulants, cocaine, cannabis and amphetamine are also reported in patients of self-enucleation (Shiwach, 1998; Moskovitz and Byrd, 1983; Rosen and Hoffman, 1972). Others who are reported to have an increased risk include institutionalised groups such as prisoners and those living alone, single or unemployed (Kennedy and Feldmann, 1994; Patton, 2004).

Use of fingers is the commonest mechanism of self-enucleation, though use of other instruments including sharp scissors and knives has been reported. Among enucleators, the right eye is more frequently reported possibly in keeping with the Biblical injunction that if "thy right eye offends thee, pluck it out". Another reason might be that a majority of reported patients are right handed (Kennedy and Feldmann, 1994).

A majority of cases of enucleation have been associated with other self-injurious behaviours. In a review of 45 patients with self inflicted eye injuries including 16 cases of enucleation, 33 percent of the cases demonstrated additional self-injurious behaviours (Kennedy and Feldmann, 1994). Similarly castration before Enucleation (MacLean and Robertson, 1976), autoenucleation before Autocastration (Clark 1981), and hand mutilation after enucleation (Khan et al., 1985) has been reported in various cases.

Culture and Major Self-Mutilation

Mutilation of body parts has been viewed as relief from conflicts, fear and guilt, which are displaced to that organ. In majority of cases described in western literature, the predominant theme is underlying guilt and the sacrificed organ symbolising the offending agent. In contrast, the mythological stories depicted in Indian literature gives a different point of view for self-mutilation. A young man, Ekalavya, shudra by caste (lower caste) had a great desire to learn the art of archery from the famous Dronacharya (Drona), who was a teacher to the Pandava and Kaurava princes, including the famous archer Arjuna. But his mother had told him that as a shudra i.e. lower caste, Drona would not accept him as a disciple and it was futile to dream of such a privilege. But determined Ekalavya installed a clay idol of Drona and started practicing archery. The talented young Ekalavya soon acquired high knowledge in archery and attributed his success to his Guru Dronacharya, with whom he had never met. One day, as it happened, Drona came to know of the skills of Ekalavya and met him as the boy was practicing in front of Drona's clay statute. Ekalavya became very happy by seeing Dronacharya, his master. In India it is customary to give to the Guru i.e. master whatever he demands as his fees "Guru-Dakshina" for the knowledge the Guru has given to the disciple. Dronacharya asked his right hand thumb as his fees i.e. Guru-Dakshina. It is known that asking for the thumb of an archer was equivalent to almost killing him, as he cannot perform archery without the right hand thumb. But Ekalavya had no such remorse. Unruffled and with due humility, cheerfully and without protest, he cut his right thumb and placed at the feet of Dronacharya (http://en.wikipedia.org/wiki/Ekalavya)

In the Rigveda, an ancient Indian mythological book, the Purusha sacrifices and divides his body into different portions for genesis of the Cosmos or world. Each part of the body becomes a different part i.e. eyes become sun, mind the moon, his head becomes the sky and his feet is the earth (http://en.wikipedia.org/wiki/Purusha_sukta). The Hijras, transsexual/transvestites performers of India, make the supreme sacrifice to mother goddess, Bahuchara who rides a cock, through self-castration. By offering their genitals to their Goddess, they become powerful enough to give or take away life of others. During the ritual, Hijras believe that letting their blood out during castration makes them physically alike to the women they aspire to be. Therefore in Indian society, Hijras are shown respect and their dancing and singing at life cycle occasions i.e. birth, marriage is considered auspicious (Nanda 1999).

There are a number of such stories in Indian mythology, which reflects self- mutilation as an act of respect and dignity rather than an act of guilt or remorse.

Theoretical Construct

The two cases that we report have several characteristics in common. First, both were young males suffering from paranoid schizophrenia as per DSM IV and had active psychopathology during the act. At the time of self-mutilation, the first patient was preoccupied with guilt implicated in a sexual act with HIV infected females and losing celibacy, unacceptable in Hindu religion. In the second patient, the theme was sin of losing the purity of soul. In both these cases, the organ of mutilation though different, symbolises the underlying unconscious motives. Lack of pain is not surprising as the act of removal of the organs, helps to control the unacceptable conflict and consequent intense anxiety.

One of the psychodynamic theories suggests that the eye symbolizes the penis. Castration and blindness are therefore thought to be related (Yucel and Ozkan, 1995). Both religious and sexual ideations often coexist and the eyes and genitalia act as a symbol of the self onto which conflicts, fear, guilt (either religious or sexual) is displaced. Hence mutilation of these organs often leads to great relief (Waugh 1986; MacLean and Robertson, 1976; Eisenhauer 1985). The act of self enucleation or any form of self mutilation represents an attempt of self healing in the form of symbolic castration developing as a compromise formation. Karl Menninger (1938), states that self-mutilation appears to be a form of attenuated suicide and it is actually a compromise formation to avert suicide (Meninger 1938; Feldman 1988). However whether psychodynamic explanations (i.e. symbolization, condensation and focal suicide) are limited to all forms self-mutilation is a matter of debate. Also, we concede that these psychoanalytic explanations for self-mutilatory behaviours remain speculative and the absolute proof for these concepts are lacking, more so in schizophrenia. Nevertheless, the cultural overtones are significant.

Three neurotransmitter systems have been implicated in the neurobiology of self-mutilation namely the opiate, dopaminergic and serotonergic systems.

Opiate System: Since endorphins release alongside painful stimulation, the presumed positive reinforcement with associated opiate releases may be one explanation for repetitive behaviours. It is suggested that the opiate system in these individuals is altered such that the increased release of endogenous opiates is necessary to maintain adequate opiatergic 'tone'. Preliminary evidence regarding measures of endogenous opiates in patients with self-injurious behaviours and pharmacotherapy to implicate opiate system that helped in such behaviours may be another indication of involvement of this system (Winchel et al., 1991).

Dopaminergic system: Dysregulation of dopaminergic activity and supersensitivity of dopaminergic receptor system may be responsible for the self injurious behaviours. But as of now there is too little evidence for us to implicate this neurotransmitter system in varying forms of self-injurious behaviour (Saito and Takashima, 2000)

Serotonergic system: Serotonergic depletion has been associated with aggression and self-injurious behaviour. The evidence stems from the increased serotonergic action within striatum and effectiveness of SSRIs in self-injurious behaviours seen in Lesch-Nyhan Syndrome, or Prader-Willi Syndrome (Favazza 1998). Moreover, some self-injurious behaviour may be similar to obsessive-compulsive disorder where, intrusive and irresistible urges to commit an act, mounting tension associated with resistance and the relief of anxiety following its commission. Also, measures of serotonergic activity in patients with borderline personality and self-damaging acts do have lower serotonin levels when compared to controls. Preliminary evidence suggests that serotonergic drugs help in subgroups of these patients. All these point towards the abnormality of the serotonergic system (Winchel et al., 1991). The above theories imply in general to all self-mutilating behaviours but evidence of specific disturbances in major self-mutilations is lacking.

Prevention and Management

Acts of major self-mutilation are uncommon and difficult to prevent (Favazza 1998). Persons with history of major self-mutilation are at risk for subsequent self-harm when psychotic or intoxicated. Drastic changes in appearance like head shaving or severe hair plucking are considered as warning signs (Favazza 1998). Persons who have command auditory hallucinations or delusions of sexual and religious content are also at high-risk.

Treatment consists of immediate hospitalization and round the clock monitoring. Liaison with surgery to prevent further tissue damage and reattaching the severed organs is utmost priority. At the same time, agitated patients may need tranquillisation. Appropriate use of antipsychotics or antidepressants as per underlying diagnosis, is to be considered. It is practically impossible to prevent self-blinding, and it is recommended that patients declaring intention to harm their eyes should have bulky gloves and tied to bed. In addition to above, electro convulsive therapy is an option for rapid control of psychopathology and agitation. Hospital admission needs to be continued until the patient's mental state is stabilized. In view of risk of repetitive harm, a long- term follow up is necessary in this group of patients (Favazza 1998; Eke 2000; Patton 2004).

The two patients reported here remained asymptomatic with regular antipsychotic therapy. The first patient recovered erectile function in about a month after surgery and is currently functioning well. The second patient was recently discharged from the hospital and is on regular follow up.

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