FREQUENT AND MULTIPLE DENTURE FRACTURES ASSOCIATED WITH DOMESTIC VIOLENCE

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ABSTRACT Physical punishment of one person to another has existed since human beings socialized with each other. It continues to exist within families, although acceptance by individuals or societies rarely occurs. Cultural heritage and traditional values conceal the occurrence of physical abuse of the elderly in many societies, including conservative ones. The complete denture prosthesis is a long-term aid for the elderly to perform multiple functions. Abuse of such individuals can damage the prosthesis, which should alarm the dentist of individuals suffering. For example, an elderly male patient fractured his maxillary and mandibular old dentures at multiple areas, which rarely occurs. The patient revealed that the denture was broken after an altercation with his sons, who tend to abuse him physically at home. The complete denture prosthesis was beyond any sort of repair. Therefore, a new complete denture was fabricated with high-impact strength denture base heat cure resin. Psychotherapeutic counselling was offered to the patient and his sons. Still, it was not accepted by those who were chief perpetrators of imposing physical abuse on the elderly. The complete denture prosthesis was also planned to incorporate the recording of neutral zone placement of the teeth and balanced occlusion. The patient was satisfied with the new prosthesis and the concern that was shown to him regarding his suffering.

KEYWORDS complete denture, balanced occlusion, neutral zone, human maltreatment, psychotherapy

Introduction

The increase in life expectancy of humans has also surfaced multiple social and medical geriatric issues, for which remedies still need to be found. Ageing is a one-direction phenomenon and does not reverse. It also brings more negative changes in the body than the opposite. Global societies are reporting that their elders are being abused by their own family members or that they are institutionalized. The impact of the pandemic has also been severe on older adults, especially those living in nursing homes.[1] The highest fatalities reported in the European nation were in nursing homes that housed older adults.[2] While, in western nations, the elderly tend to choose living homes, in poorly developed geriatric infrastructure countries like India, the elderly live among their own family members. The picture did not look better in such case scenarios during the pandemic, which showed grizzly images of dying people in media, the majority of them being elderly.[3] Overall, increased life expectancy has brought public health concerns. The chief concern related to the senior population is geriatric abuse and neglect, be it from family or other people. Elder maltreatment received scientific recognition way back in the nineteen eighties,[4] which led it to be declared a public health and criminal justice concern in the United States.[5] Violence between humans does not date back only to the eighties, though, since there is huge evidence that violence has been part and parcel of human civilization evolution.[6] Abuse is also not limited to the elderly since humans abuse their children or spouses.[7] While violence may result in imminent harm to any individual irrespective of age, violence
against the elderly is more associated with death than in children. Among various types of maltreatment the elderly suffer, the most common is psychological (emotional) neglect. In contrast, the least common is physical abuse. Physical abuse has been associated strongly with less reporting by sufferers since they fear the consequences if they report such occurrences to local authorities. According to WHO, a person is categorized as senior only at the age of 60 years. With two decades to live after 60, older adults must start taking this age positively rather than the age of senescence.

Common to other forms of human maltreatment like that of a child, it has been found that the majority of the time, biological offspring is a responsible or main perpetrator; in the case of a child, it is his parent, while in the elderly, it is his son or daughter. Dentists, in particular, have been seen to play a vital role in reporting and intervention of elder abuse cases. Since dental treatments are long-term and consume a long time. These make it ideal for developing a trust-building relationship between the patient and the dentist.

Case report

An elderly male patient aged 68 years was referred to the department of post-graduate prosthetic dental sciences by the department of oral diagnosis to seek replacement of an old denture which was reported to have been fractured several times even after repair. The patient’s medical history revealed that he had hypertension and was taking medicines regularly for the condition. The patient’s social history revealed that he had three sons, a poor socioeconomic status, owned farmland, and was a farmer by profession. Their dental history disclosed that he had made a denture five years back in the same college. The denture was functional before fracturing. Extra oral examination presented normal clinical features while intraoral examination revealed well-formed maxillary and mandibular residual alveolar ridges (Fig 1a), irregular in shape with minor soft and hard tissue undercuts present throughout the anterior and posterior regions of both arches. Examination of the previous denture revealed that both dentures fractured at multiple places, though not routine. The maxillary denture was fractured in the midline with an ‘S-shaped fracture (Fig 1b), while the left buccal flange was also fractured and extended to the posterior palatal seal area of the denture. Another fracture on the maxillary denture was present in the right lateral incisor region. The mandibular denture was fractured horizontally, and all anterior teeth were missing from the denture (Fig 1b). The patient revealed that his son had thrown the denture many times whenever they had an altercation. Detailed investigation revealed that he was physically abused by all his sons, which was related to the land and other property. Palpation of the oral mucosa revealed a somewhat minor flabby tissue in the maxillary anterior region, as outlined in fig 1c. Treatment planning was done to accommodate multiple Prosthodontic treatment options, including an implant-supported overdenture for mandibular arch and implant-supported fixed denture, which the patient outright refused due to economic non-viability. The patient consented to a conventional removable complete denture for which routine clinical and laboratory steps were made.

The flabby tissue was recorded with a window technique using a putty reline technique (Extrude and Extrude Extra; Kerr Corp) (Fig 2a). A cast was poured into it, followed by a special tray fabrication (Fortex; Lucite Intl, Durham). Definitive impressions were made after doing the border moulding with green stick compound (Pinnacle, DPI), followed by impression with zinc oxide eugenol impression paste (DPI) (Fig 2b). The mandibular arch was recorded to enhance stability, followed by a recording of the neutral zone after the jaw relation stage (Fig 2c). Stainless steel wire (Mani Inc, Tochigi, Japan) was attached to the mandibular denture base on which a soft liner (Thixotropic, Zhermach, Italy) was attached. The patient was asked to perform functional movements of the lips, cheeks and tongue. This recorded the denture’s tissue surface, which was later recorded as an index using the elastomeric putty material. The teeth arrangement was made, and a balanced occlusion was incorporated in the trial denture (Fig 2d, e). The occlusion was further refined during the laboratory remounting on the semi-adjustable articulator to eliminate processing errors. The occlusion of the denture was verified to have simultaneous and even contacts in centric and eccentric movements (Fig 3a). The occlusion was checked in the patient’s mouth (Fig 3b) and then placed in the mouth. Denture delivery was accompanied by post insertion instructions. As mentioned in the recent literature, the psychotherapeutic intervention was offered to the patient and his sons. The patient and his caregivers were offered desensitization and improved their knowledge of the elder abuse impact on general health. Although the patient turned up for the sessions, only one of his sons reported to him throughout the sessions. Patients were satisfied with his new denture and were asked to follow up regularly for one year, to which he responded well.

Discussion

A case of an older adult with evidence of being physically abused by his own sons has been described in this article. The main feature of this case description is that the condition of the old denture and/or the oral health condition is a good indicator of elder abuse. In this case, being physical abuse, as the patient claimed that his prosthesis was broken down while alternating with his sons. The characteristic condition of the denture rules out the existence of self-neglect, which should be ruled out while determining the presence of any form of abuse in the elderly. Self-neglect is usually characterized by one’s own inability to meet his basic needs to the extent of the threat to his safety. The type of fractures in the maxillary and mandibular denture could not result from self-neglect, which in this could have been if and when the patient would have been careless to drop the dentures on a hard surface. In such a case, the artificial tooth is
broken, or the flange would chip off or break in unsupported regions. Physical abuse is difficult to report by the victim because of various factors,[4,7,18 especially if it occurs in a home setting. The perpetrator may avoid the victim coming in contact with any person, even the family and friends. Such cases are reported when the victim is in dire need of medical help. 19 It was at that time the victim may reveal his condition, or the signs and symptoms may be to that extent that does not fall in the normal range of traumatic injuries.[20] Like other forms of neglect in humans (parental neglect, child neglect), the traits of imposing physical harm to a parent depend on the environment, which has been shown to influence both genetically prone and normal individuals.[21]

India has varied cultures and traditions, which generally expect children to be extremely respectful to their parents. Similarly, in conservative societies, other forms of abuse like child neglect are related to social, cultural and even religion-related limitations, which tend to conceal such episodes in the society rather than face them. 22 However, due to such belief in the traditions, it is also true that there is a dearth of studies on elder abuse. 23 Extreme elder abuse cases have been reported in Indian media over the last two decades, including murdering one or both parents for the property. 8,24 Any abuse has been seen to bring negative outcomes, whether a child or the elderly. For example, parental neglect has been strongly associated with their child’s obesity and poor health outcomes, 25. In contrast, abuse in the elderly has been seen as a major cause of depression. 26 There is no consensus worldwide among governments, researchers or healthcare workers on what interventions are necessary to counter elder abuse. While community and social workers try to prevent this through proper education, actual interventions are considered successful when performed using a psychotherapeutic approach.

**Conclusion**

Physical abuse of the elderly is life threatening. It has been reported to have negative outcomes with medical and dental treatments. Community health education is mandatory to counter such social issues. Interventions mainly designed at the community and individual level can help older adults to cope with the stress associated with it. The state of the previous dentures can provide a clue and help diagnose elder abuse.

**Funding**

This work did not receive any grant from funding agencies in the public, commercial, or not-for-profit sectors.

**Conflict of interest**

There are no conflicts of interest to declare by any of the authors of this study.

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