AMNESIA FOR AUTOBIOGRAPHICAL MEMORY: A CASE SERIES

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ABSTRACT

Functional amnesia for autobiographical memory is a rare but pathognomonic sign of dissociative disorders. Amnesia for part of one's personal history is sometimes also seen in other functional disorders like depression and schizophrenia but autobiographical amnesia in these disorders is relatively rare. Phenomenologically the autobiographical memory loss, amnesia for events during the amnestic episode and change of identity (as in fugue and dissociative identity disorder) are all expressions of altered memory organisation. This paper reports three cases of autobiographical amnesia with clinical diagnoses of dissociative disorder unspecified type, dissociative amnesia and schizophrenia that were treated successfully. The phenomenon of autobiographical amnesia is discussed in the background of these cases.

Key Words: Amnesia, memory, autobiographical, dissociative disorders

Memory disturbances are a common complaint in clinical practice in psychiatry. The disturbance usually refers to recall of day to day events, finances, or some personal information like addresses, phone numbers, etc. In severe cases, the patient may even forget the names of his or her immediate family members and may not be able to recognise them (Kopelman, 1987). Amnesia is a general term for memory disturbance and includes both partial as well as complete loss of memory that may be anterograde and retrograde, defined in terms of the onset of an injury or illness. Common causes of amnesia may include organic brain disorders like delirium, dementia and organic amnesic disorders or functional illnesses like depression and dissociative disorders. Amnesia occurring in the absence of any identifiable injury or disease affecting the brain structure is called functional or psychogenic amnesia (Kopelman, 1987; Khilstom & Schacter, 1995). In delirium, memory disturbances occur in the context of impaired consciousness, with reduced ability to focus, sustain or shift attention, whereas in dementia, memory impairment may co exist with multiple cognitive deficits like aphasia, apraxia, agnosia, etc.

Organic amnesia involves impairment in learning and recall of new information, which is typically absent in dissociative amnesia. Transient amnesia of organic origin may be, like dissociative amnesia, circumscribed to a particular time period or event with no difficulty in learning and recalling new information, but in these organic cases, there is "shrinkage" of retrograde amnesia. This indicates a well-observed fact of recall impairment diminishing as patient recovers. Apart from these, the organic amnesia patients during the amnestic episode have confused or bewildered demeanour. There is a gradation in degree of memory impairment of pre-insult events. The most remote events being the least affected and events more
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closure to the insult, more seriously affected. Both of these above features are usually not seen in amnesia of dissociative origin (Caine & Lyness, 2000).

Amnesia for autobiographical memory is relatively rare and is seen more often in media reports or movies rather than in general psychiatric practice. Functional amnesia involving autobiographical memory is a pathognomonic sign in a major class of mental illnesses known as dissociative (conversion) disorders. Amnesia for all or part of one’s personal history is a common feature of dissociative amnesia, dissociative fugue, and dissociative identity disorder (multiple personality disorder).

In dissociative amnesia, the core symptom is an inability to remember important personal information, typically a traumatic experience (what has happened as well as what one has done). In dissociative fugue, the core symptom is confusion about one’s identity, loss of identity, or the assumption of a new identity. This amounts to forgetting who one is, not just what one has done. The change in identity is typically accompanied by a loss of memory for events and experiences associated with the former identity (Kihlstrom & Schacter, 1995). This is sometimes accompanied by moving away from one’s native place. When the fugue state resolves, the person reverts to his or her original identity, and is able to recall the original (old) memories. However, the autobiographical memories associated with the newly assumed identity are lost. Dissociative identity disorder resembles fugue, except that the shift between identities, and associated sets of autobiographical memories, is cyclical. It appears as if two or more separate identities exist within the same individual, alternating in control over experience, thought and action (Kihlstrom & Schacter, 1995). Each of these identities (sometimes called alter egos) has its own fund of autobiographical memories in form of events and experiences and self-referent semantic knowledge.

The memory is variously categorised as episodic, semantic (or declarative) and procedural. It can be expressed as explicit (conscious recall) or implicit (unconsciously expressed memory).

The episodic memory concerns people’s knowledge of particular events that they themselves have experienced and is inherently autobiographical (Tulving, 1983). A complete episodic memory describes an event that has occurred in the past, but it also makes reference to the spatiotemporal context, the time and place in which that event took place. It also necessarily makes reference to the self as the agent or experiencer of the event (Kihlstrom & Schacter, 1995). The episodic memory is predominantly explicit in nature but some times behaviours acquired during an experience or event may remain implicit.

The semantic memory consists of generic knowledge about the world with respect to oneself, as self-referent semantic memory. It includes knowledge of one’s own name, residence, occupation, family members and other information that is not associated with a particular time and place. The non-self referent semantic memory concerns with knowledge about language, general mathematical rules and facts of life and the world around us. Semantic memory can be expressed in explicit (facts) or implicit (language rules) manner.

The procedural memory is defined as individual’s repertoire of learned skills like driving, cooking, singing, playing games and musical instruments, and writing. This type of memory is mainly expressed in implicit or unconscious manner. The procedural memory is relatively intact in organic amnestic disorders, as opposed to the episodic memory. Similar is the case with the dissociative disorders.

In pure cases of dissociative amnesia, there is loss of episodic, but not semantic memory about oneself. Patient forgets what he did or what happened to him, during a specified period of time; but he does not forget who he is. Mostly the amnesia is reversible in such cases and access to the episodic (autobiographical) memories covered by amnesia is eventually restored.

In fugue, there is loss of autobiographical (self referent) semantic memory as well as
episodic memory. These patients forget who they are as well as what they have done. If the patient assumes a new identity, a new set of autobiographical memories (episodic as well as semantic) become associated with the new mental representation of self. When the fugue resolves, the new self as well as associated autobiographical memories are lost as well.

Somewhat similar happens in dissociative identity disorder, except that there is a kind of alteration or exchange of identities and associated autobiographical amnesia.

It is quite interesting to note that while the dissociative disorders involve profound impairments of autobiographical memory (episodic as well as self referent semantic, especially the explicit part of both), the other knowledge stored in memory specially the one that is expressed implicitly (procedural, semantic and sometimes, episodic, when certain event related behaviours memorised during some experiences of the past are expressed in implicit manner) appears to be relatively unimpaired. The individual’s fund of world knowledge (the non self referent semantic memory) and repertoire of learned skills (i.e. procedural memory) remains relatively unimpaired (Khilstrom & Schacter, 1995).

Here we report three patients who presented with autobiographical amnesia. Detailed assessment led to the diagnoses of dissociative disorder, unspecified type; dissociative amnesia and schizophrenia. All the three cases were treated successfully.

Case 1: Ms. A, 17-year-old, unmarried female from a conservative Muslim family, was brought to the outpatient department from her school as she had become unconscious in her class in presence of her friends. On regaining consciousness after about three minutes, she claimed that she was a 25-year-old Hindu girl, daughter of a rich businessman from Varanasi (a city of pilgrimage for Hindus) married to a Hindu. She also claimed that she had done her education from Varanasi. During the spell of unconsciousness, there were no involuntary movements, injury or incontinence. In reality, the patient had never been to Varanasi and the family had no connections in Varanasi. There was no past psychiatric illness and no family history of psychiatric illness.

Birth and early developmental history were unremarkable and there was no history of child abuse. During examination, though tense at being in a hospital in Delhi, she was generally cooperative and communicative. Physical and neurological examination revealed no abnormality. She was diagnosed as a case of dissociative disorder, unspecified type. Abreaction with diazepam was conducted. During abreaction, she narrated that she was going with her husband to a hill station. On the way they met with an accident in which her husband was seriously injured. At this, it was suggested that her husband was dead, and she would go to sleep after a while, and on waking up would become 'Ms A'. She woke up after one hour and was absolutely normal with no memory of the episode.

Case 2: Ms. B, a 17-year-old, unmarried female studying in 12th standard, presented with a history of loss of memory including personal identity for three days and episodes of loss of consciousness for five days. She had appeared in one of the paper of 12th standard examinations 5 days earlier and had performed miserably. She had been preoccupied with her bad performance before the onset of episode of unconsciousness. She gave impression of assumption of alternate personality, which was not her actual identity. She could not reveal exact characteristics of the new or alternate identity and did not know her name. She was not responding when called by her actual name and was not able to tell who she was and how she was in hospital. She was taking personal care, but was not aware of her whereabouts and not recognising family members. During examination she was adequately dressed and fairly kempt. Her psychomotor activity was reduced and she was withdrawn and inattentive. She appeared sad and was not recognizing her mother. No psychotic symptoms could be elicited. Physical examination was normal and there were no features suggestive of an epileptic phenomena or any characteristics.
favouring an organic illness. She was diagnosed as having dissociative amnesia. Pentothal abreaction was done on the next day. The interview lasted for 15 minutes during which she talked about the conflict regarding her performance in the examination and fear of failing. She was given suggestion that she would regain memory within a few days. She was treated with oral diazepam and supportive psychotherapy during her stay in the hospital. At the time of discharge she had recovered completely and all the lost memory details were retrievable. However, she was not able to tell the details about the period of memory loss.

Case 3: Mr. C, a 17-year-old male, was admitted with abusive and violent behaviour, inappropriate crying, and incomprehensible speech in the psychiatric emergency service on being referred from a general hospital. He was unable to recall his name and address though fully conscious. Detailed examination revealed psychomotor retardation, neglect of personal care, and poverty of speech along with a general uncooperative attitude. On the fifth day of admission, he was started on trifluoperazine 15 mg/day orally. After 3 days of treatment, he started communicating and could recall the day-to-day events but no personal details. His thought disturbance had remitted and speech became relevant and coherent. Gradual improvement in personal and social functioning was noticed in the next two weeks. On the 18th day of treatment, he told his name and after a few days about his address and the family. He also informed about hearing voices of the village people in the past. His family was informed. His father arrived on getting the news. His father gave an additional information that Mr. C had suffered about 18 months earlier from an illness characterised by socially disorganised behaviour, aimless wandering, hearing threatening voices, and suspiciousness. He was on psychiatric treatment but had not regained the premorbid status. He was diagnosed as schizophrenia, undifferentiated type. Mr. C did not show any serious cognitive impairment at any stage except for the predominant memory dysfunction involving personal information in the initial part of his hospital stay. This personal memory loss also remitted with about 3 weeks of antipsychotic treatment. Presumably, he had left his native place in an exacerbation of illness and had got lost, and was later brought to our hospital. Even after improvement, he was not able to recall the course of events of the period when he was not able to tell about his name and was missing from his home.

DISCUSSION

Memory organisation in autobiographical amnesia is characterised by loss of autobiographically organised episodic and self-referent semantic memory indicating a failure of cognitive process in retrieval of stored information. There is relative preservation of skills of daily living and learned professional skills, thus showing intact implicit or procedural memory. Amnesia for the episode denotes either poor encoding, elaboration and consolidation of memory during amnestic episode or retrieval failure after the episode (Khilstorm & Schacter, 1995). The assumption of new identity with varying degree of elaboration may be due to emergence of new set of autobiographically organised episodic and self-referent semantic memories.

Two of our patients (Ms. A and Ms. B) during amnestic phase had probably the kind of memory organisation described above. Faulty encoding and/or poor retrieval were evident from irreversible amnesia for episode. Assumption of new identity by Ms. A. was indicated by emergence of new set of autobiographically organised episodic and self-referent semantic memories. This was quite pronounced in form of memories of being from a different religion (Hindu) and belonging to a Hindu religious city as native (Varanasi). However, such details could not be elicited in Ms. B. The newly adopted identity was not sustained and got terminated within a short span of about an hour and there was no shift between two identities. Therefore, she did not meet the diagnostic criteria of dissociative identity disorder and was
diagnosed as a case of dissociative amnesia. Mr. C, who was diagnosed to be suffering from schizophrenia, had also not assumed any new identity during the amnestic phase and had intact non-self semantic and procedural memory as shown by absence of any other cognitive deficit except for autobiographical amnesia. Many times patients of schizophrenia because of their formal thought disorder or irrelevant talk may appear to have memory disturbances which may not actually be there. Although in our case (Mr. C) thought disorder and irrelevant speech were present initially, these had remitted within three days of start of treatment. However, his autobiographical amnesia continued till the third week of treatment, excluding any misinterpretation on the basis of presence of communication problems. It seems that he had disturbance of elaborative encoding and consolidation and/or of retrieval, as he could not remember details of his behaviour during the amnestic period.

The clinical manifestations of dissociative disorders are considered to be due to the use of dissociation as a defence in which an overwhelmed individual rather than taking meaningful or rational action, escapes the stressful situation by altering his or her internal organisation (Klurf, 1992). This alteration of internal organisation is helped through cognitive processes of “Absorption” or imaginative involvement and “Dissociative Detachment”, which are predominating in dissociative states (Allen et al., 1999). Reorganisation of consciousness by these cognitive processes may result in the altered memory structure as seen clinically in form of autobiographical amnesia.

The process of “Absorption” or imaginative involvement is evident when one is engrossed in a book, television, movie, fantasies or day dreams and remembering past events vividly to the point of reliving them (Carlson, 1994). The consciousness is focused on the point of absorption. At mild levels, such experience are indeed normal, common and benign but in the face of anxiety or fear of psychological disintegration, these may take pathological form, resulting in various symptoms of dissociative disorders. In “Dissociative Detachment”, patients are coping by disengaging attention more pervasively from the outer as well as inner worlds (Allen et al., 1999). Both environmental and personal contact may be detached (Butler et al., 1996). The consciousness in dissociative detachment is perhaps better characterised as diffuse or vacuous than narrowly focused (Allen et al., 1999).

Intense absorption alters the sense of self and reality. In dissociative phenomena, it is accompanied by narrowed attention, which amplifies the focus of consciousness and excludes the “Metacognitions” (e.g., awareness that something is imagined and not real) leading to experiences of memories as real (Tellegen and Atkinson, 1974). It may so happen that the arrangement of consciousness in altered sense of self and reality retrieves memories (Episodic and Semantic) organised around original self and reality and this manifests as autobiographical amnesia. The lack of metacognition and experience of memories as real may help arrange fantasised personal, environmental and semantic memories (now experiences) around the altered sense of self and reality. This may manifest as assumption, partly or completely, of new identity by the patient. Some degree of assumption of new identity is considered an essential feature of all dissociative disorders (Khilstorm & Schacter, 1995). In the present series of cases, the new identity was well developed in the first case, but was not well established or evident in the other two cases.

Experiences organised around the altered sense of self and reality would be difficult to retrieve when patient’s original arrangement of consciousness returns and episode of amnesia is over. This would manifest as amnesia for the episode due to retrieval failure. Amnesia for the episode may also be observed when the part of consciousness under the influence of process of “Dissociative Detachment” is de-linked from the personal and environmental context, leading to varying degree of Encoding, Elaboration, and
Consolidation failure.

Impairment of autobiographical memory in schizophrenia is an unusual finding as happened in our third patient. This has been observed in some cases and is reported to be similar to that seen in psychogenic amnesia (Stip, 1994). The amnesia responded to antipsychotic treatment but the response was delayed as compared to the other symptomatology. It is well known that schizophrenic process can lead to poor ego functioning (as evidenced by loss of contact with reality), and this could lead to cognitive changes required to induce dissociation, severity of which may vary from patient to patient. This may cause dissociative kind of memory disturbances in schizophrenia as observed by Stip (1994). Management of underlying schizophrenic process is likely to bring improvement in the secondarily affected cognitive processes as was also seen in our case. The role of antipsychotics in functional amnesia remains speculative but it is observed that some patients of dissociative disorder also experience psychotic symptoms and require antipsychotics (Allen et al., 1999).

REFERENCES

Allen, J.G., Console, D.A. & Lewis, L. (1999) Dissociative detachment and memory impairment: Reversible amnesia or encoding failure. Comprehensive Psychiatry, 40, 160-171.

Bower, G.H. (1981) Mood and memory. American Psychologist, 36, 129-148.

Bulter, L.D., Duran, R.E.F., Jasiukaitis, P., Koopman, C. & Spiegel, D. (1996) Hypnotizability and traumatic experience: a diathesis-stress model of dissociative symptomatology. American Journal of Psychiatry, 153, 42-63.

Caine, E.D. & Lyness, J.M. (2000) Delirium, Dementia, and Amnestic and other Cognitive Disorders and Mental Disorders Due to a General Medical Condition. In. Sadock, B.J. & Sadock, V.A. (eds) Comprehensive Textbook of Psychiatry. 7th Edition. pp 854-923. Baltimore: Williams & Wilkins.

Carlson, E.B. (1994) Studying the interaction between physical and psychological states with dissociative experiences scale. In Spiegel (ed), Dissociation Culture Mind and Body pp, 41-58, Washington D.C: American Psychiatric Press.

Khilstorm, J.F. & Schacter, D.L. (1995) Functional disorders of autobiographical memory. In Baddeley, A.D., Wilson, B.A., Watts, F.N., (EDs). Handbook of Memory Disorders pp,337-364. New York: Wiley.

Kluft, R.P. (1992) Discussion: A specialist's perspective on multiple personality disorder. Psychoanalytical Inquiry, 12, 139-171.

Kopelman, M.D. (1985) Multiple memory deficits in Alzheimer type dementia: implications for pharmacotherapy. Psychological Medicine, 15, 527-541.

Kopelman, M.D. (1987) Amnesia: organic and psychogenic. British Journal of Psychiatry, 150, 428-442.

Stip, E. (1994) Memory impairment in schizophrenia: perspective from psychopathology and pharmacotherapy. Canadian Journal of Psychiatry, 41, 8 (Suppl 2), 527-534.

Tellegen, A. & Atkinson, G. (1974) Openness to absorbing and self altering experiences ("absorption"): a trait related to hypnotic susceptibility. Journal of Abnormal Psychology, 83, 268-277.

Tulving, E. (1983) Elements of Episodic Memory. Oxford University Press, Oxford.