Physician's Guide To Medical and Psychiatric Management Of Head-Striking Self-Injurious Behavior (SIB) In The Adult With Mental Retardation And Developmental Disabilities (MR/DD)

1. Overview

Head-striking SIB is a distressing event to the patient, family caregiver or professional who witnesses the event. Self-injurious behavior focused on the head can produce significant injury to ears, eyes, and teeth. Some patients strike their head against objects such as tables, doors, walls, and other hard surfaces that can produce even greater injury. The treatment of head-banging or head-striking begins with a meticulous evaluation to determine potential underlying causes. Chronic head striking can produce cauliflower ears, facial disfiguration, and visual or auditory impairment. Most head-striking behavior requires behavior management techniques that are not described in this document **(1), (2), (3).**

2. Differential Diagnosis

General Physical Causes. SIB that targets the head can result from diseases anywhere in the body, such as neurological problems, psychiatric problems, or distress that is specific to the head and neck. Some individuals with moderate or severe MR will strike their head to avoid environmental demands or to get attention. Patients with head-striking behavior require a combined medical and behavioral evaluation **(4).**

Pain can produce SIB directed at the head. A detailed, clinical history is important to identify headaches, eye pain, sinus infections, ear infections, dental pain, or a clinical history of psychosis or anxiety **(6).**

Headaches can produce SIB directed at the head. A family history or past clinical evidence of vascular headaches may suggest migraines. Nausea, vomiting or photophobia associated with the head-banging may represent GI sequalae of migraines. Individuals with chronic stress and anxiety may develop muscle contraction headaches with tenderness to palpation of the occipital trigger points or in the region of the trapezius muscles. Sinus films may be indicated and an ENT consult may be helpful; especially with a past history of sinusitis or otitis media **(4).**

Older individuals or persons with specific syndromes may be at increased risk for glaucoma and increased ocular pressure. These conditions may be associated with tearing or some other evidence of eye pathology. Eye pressure can be assessed and the patient may benefit from an ophthalmologic evaluation.

Individuals with allergies or past histories of sinus infections should be assessed to determine whether they have had a recurrence of this condition. Nasal discharge or other evidence of respiratory tract infection may be helpful in a differential diagnosis.

Dental pain can be referred throughout the face and to the orbits producing pain. Assessment of head-banging and head-striking behavior should include a dental examination. Teeth clinching or grinding can produce TMJ disease in these individuals that results in referred pain. Other less likely causes of facial pain include trigeminal neuralgia. Each head-related condition producing the SIB should be identified and treated.

Head-striking SIB may also occur as a result of illness of physical discomfort elsewhere in the body. Head-striking may be a response to systemic illness, pain, or other health problems that produce pain, e.g., menstrual dysphoria, compression fracture, etc.

Neurological Causes. Patients with ventriculoperitoneal shunts for hydrocephalus should have shunt function assessed to exclude the possibility of persistent or intermittent shunt failure. Increased intracranial pressure may also produce lethargy, gait disturbance or vomiting.

Individuals with new-onset, severe persistent head-banging or head-slapping with no clear recognizable etiology may require at CT to exclude intracranial pathology including obstructive hydrocephalus, subdural hematomas, slow growing CNS neoplasm or some other intracranial pathology that could produce pain.

Patients with seizure disorders require a careful re-assessment to exclude the possibility of partial complex seizures producing confusion or agitation. Antiepileptic levels should be assessed and monitoring to exclude the possibility of episodic seizures producing distressing pre-ictal auras or post-ictal confusion **(7).**

Psychiatric Causes. Psychosis could potentially produce head-striking SIB in response to auditory or visual hallucinations. This presentation is unusual and the clinician should identify other evidence of hallucinations beyond the SIB prior to initiation of an antipsychotic medication. Depression or anxiety may provoke this symptom.

3. Assessment Examination

Physical. The physical examination should include a complete ENT exam, dental evaluation, and assessment of neck musculature. A meticulous examination of the ear, nose, and throat is required including speculum examinations of the ear and nose to exclude the possibility of foreign bodies that are not radiolucent on X-rays or CT. Older patients require evaluation of intraocular pressure. The ear, scalp, and face should be assessed for evidence of old trauma, e.g., cauliflower ear. Chronic, long-term head striking suggests either chronic pain or a persistent

abnormal response to environment stressor. Sinus films, head CT, and EEG are optional--based on clinical circumstances.

Behavioral. Once there is reasonable certainty that there are no medical explanations for the head-striking behaviors, an assessment of psychiatric symptoms should be conducted. Individuals with intellectual disabilities are more likely to have behavioral manifestations of psychiatric symptoms when they occur and are less likely to be able to verbalize in a sophisticated way about what they are experiencing. Some assessment tools designed for aiding the identification of psychiatric symptoms in individuals with intellectual disabilities include the DASH-II (Diagnostic Assessment for the Severely Handicapped – II), the ADD (Assessment of Dual Diagnosis), and the REISS Screen. These instruments have taken symptoms for the various diagnostic categories in the DSM and translated them into descriptions of behaviors that have been associated with particular diagnostic categories. This kind of assessment can also help sort out which behaviors are manifestations of a psychiatric disorder and which behaviors are a result of learning. Functional behavioral assessments need to be conducted for the latter when identified.

4. Management

Medical. National consensus criteria do not specifically address head-striking behaviors **(8).** The management of head-striking SIB is focused on behavioral interventions following behavioral assessments. A one-to-two week trial of regular doses of Tylenol or non-steroidal anti-inflammatory medications can be administered to determine whether analgesia diminishes the quality or severity of the behavior. In the event that regular Tylenol reduces the frequency of SIB, the clinician should determine the precise etiology of the potential pain.

Pharmacological. Acute, severe head-striking SIB may require sedation with antipsychotic medications for patient safety. The chronic prescription of antipsychotic medications is acceptable for severe dangerous behaviors that fail adequate trial of behavioral therapy. Sedating medications can be tapered as behavioral management improves symptoms or physical problems are corrected **(9), (10).**

Patients with a past history of post-traumatic stress disorders or evidence of anxiety disorder may respond to buspirone or selective serotonin reuptake inhibitors (SSRIs). Head-directed SIB may also result from depression although this specific symptom is not frequently reported in the literature. Antidepressant therapies, such as SSRIs, may alleviate these symptoms. Individuals with evidence of hallucinations may undergo a six-week to two-month trial with appropriate antipsychotic to determine whether the SIB is improved. Clinicians must be careful to distinguish between sedation versus improvement of psychotic symptoms.

Behavioral. Behavior analytic procedures can be included with other treatment modalities for a person who has both a psychiatric diagnosis and intellectual disabilities. Behavioral specialists can determine appropriate training strategies to assist a person with intellectual disabilities to gain better coping skills for dealing with their psychiatric symptoms. Triggers for the symptoms can be identified and strategies taught to staff, family members, and the individual to prevent escalation of the behavioral symptom. Counseling can be provided, keeping in mind that

discussions need to be geared toward the level of understanding of the individual. Most counseling should take the form of skill-building and include the chance for positive reinforcement during the learning process. For example, if an individual becomes angry easily due to an impulse control problem, anger management training may be successful when presented in simplistic terms, modeled by the clinician, and practiced repeatedly by the individual in more than one or two sessions. As the person learns the management techniques, positive reinforcement should be delivered to assist with the acquisition and maintenance of the skills.

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