arbd network

The Clinical Diagnosis of ARBD

Alcohol Related Brain Damage (ARBD) is an umbrella term. It includes presentations of differing degrees and nature of cognitive damage as a consequence of alcohol dependency and/or thiamine deficiency. As there are no specific instruments validated for the diagnosis of ARBD, this document attempts to provide a pragmatic overview designed to facilitate its recognition.

High risk populations

ARBD may occur after several years of alcohol dependency. Evidence suggests that a significant proportion of individuals attending services for the treatment of alcohol dependency in community settings experience varying degrees of ARBD. There is some evidence suggesting that multiple withdrawals from alcohol are a risk factor for cognitive impairment. ARBD may contribute towards poor compliance with community treatment regimes, due to the undiagnosed cognitive disorders. Other populations that may well have a high prevalence of ARBD include individuals with frequent visits to accident and emergency departments or admissions into acute medical care for the treatment of the physical complications of alcohol dependency. Some surveys have indicated that patients that are 'difficult to place', with resultant long-stays in acute hospital care have a high prevalence of ARBD. (This is of course dependent on many other service-related factors as well). Studies in Glasgow have indicated that the homeless population have a high prevalence of ARBD.

Populations at risk of developing Wernicke's Encephalopathy may be identified through clinical observation. In the case of ARBD, signs of malnutrition, early neurological problems and psychological changes in the context of heavy drinking may all be taken as potential warning signs. These include loss of appetite, weight loss in the past year, decrease in BMI, history of recurrent vomiting and excessive carbohydrate intake. Psychological problems may include insomnia, anxiety, fatigue, weakness and apathy, changes in concentration and early memory loss. Neurological problems may include giddiness, changes in balance, numbness or pins and needles and double vision.

Overview of clinical diagnosis

There are no validated, specific tests for the diagnosis of ARBD. A research project conducted in USA in 2003 found that a combination of a history of heavy alcohol drinking (30 units for women, 50 units for men per week) of at least a duration of five years, combined with evidence of cognitive impairment (of similar degree to that of dementia) and exclusion of cerebrovascular disease identified people with long standing ARBD (described as alcohol dementia).

In diagnosing ARBD, it is important to establish three major issues. Firstly, is there evidence of **sustained cognitive damage**? The use of the term 'sustained' is to exclude those individuals that are suffering from withdrawal. Assessments should be undertaken after a withdrawal regime has ended. In the original research of 2003, the author defined 'alcohol dementia' as people suffering from cognitive impairment after three months of abstinence in order to differentiate from those in which cognitive symptoms spontaneously resolved. This occurs quite frequently in the first three months. However, there are problems with this approach in an NHS setting. It is difficult to maintain someone in an acute hospital bed solely to see if cognition spontaneously improves. Consequently, the pragmatic definition of ARBD includes individuals with cognitive impairment being evident after withdrawal.

Secondly, it is important that there is a history of **alcohol dependency** that is likely to be the primary cause of the cognitive impairment. As mentioned above, a three-year history of drinking at least 30 (women) or 50 (men) units a week (usually against a background of previous, heavy social drinking) is likely to have a significant effect on cognition. Such a history may be inferred or documented by hospital notes but gaining a corroborative history from carer, family or friend is always useful.

Thirdly, it is important to **exclude other causes of cognitive impairment**. Up to 25% of ARBD patients presenting through acute care will have some evidence of early cerebrovascular disease or head trauma. In the assessment of a patient, a clinical decision must be made concerning the relevance of these conditions (if present). When there is evidence of sustained and obvious cognitive impairment following the trauma or stroke (vascular event) then it may be appropriate to consider these as the main problem. However, what evidence there is indicates that individuals with ARBD and minor head trauma or early cerebrovascular disease can respond to ARBD management. It is important to note that individuals with a history of heavy drinking are more likely to develop dementia (usually vascular dementia) later in life. A progressive dementia of this nature should be differentiated from ARBD. If there is continued deterioration in the context of abstinence, then a diagnosis of ARBD is unlikely.

Cognitive assessment

There is a wide variety of instruments designed to quantify cognitive deficits. Most of them employ 'cut-off' scores that indicate the possibility of dementia. It is not the purpose of this brief document to provide a comprehensive review. We provide a brief critique of a few more commonly used instruments These include the 6-CIT amongst many others. This is an example of a very brief instrument often used in general practice and community settings. Another instrument frequently employed is the Mini Mental State Examination (MMSE). The disadvantage with these instruments is that they fail to capture changes in cognition associated with frontal lobe problems (dysexecutive syndrome) which are very common in ARBD. Slightly longer instruments that do include some aspects of frontal lobe dysfunction include the Montreal Cognitive Assessment (MoCA) (https://www.mocatest.org/the-moca-test/). This test is designed to pick up mild cognitive impairment and can play a useful role in identification of people with ARBD. It is freely available on the web. A slightly longer instrument (in terms of time to administer) is the Addenbrooke's Cognitive Examination (ACE-R) https://advancemed.com.au/wp-content/uploads/2019/01/ace-r_aus_versiona1.pdf . It is free to download and easily administered and the scoring instructions are easy to follow. A degree of standardisation and training is recommended and there are now free access on-line training courses available.

When using these tests, it is important to note that these are **not** diagnostic tests. They are designed to identify people that exhibit some aspects of cognitive dysfunction. They have not been validated in the context of ARBD. Consequently, they certainly exclude important aspects of cognitive dysfunction experienced by people with ARBD and the cut-off scores may not necessarily be applicable. Despite these important issues, the MoCA and the ACE-R offer a structure for conducting a brief cognitive examination for clinicians that have no prior training in undertaking a cognitive examination and provide the context of cut-off scores that have been validated in other conditions.