**Research protocol**

**Title: Electro clinical profile of children with Autism and Autism Spectrum Disorder attending in a Tertiary care Hospital.**

**Introduction:**

Autism Spectrum disorder (ASD) is a neurodevelopment disorder of unknown aetiology characterized by social and communication deficits and the presence of restricted interests / repetitive behaviours (1). Epilepsy is one of negative factors on cognitive, adaptive and behavioural /emotional outcomes for individual with ASD (2) . Autism itself is associated with increased risk of epilepsy. Recently there has been interest in the occurrence of epileptifom Electro Encephalography (EEGs) even in the absence of epilepsy. Some investigators proposed that these abnormalities may play a causal role in the Autism phenotype. In ASD higher rates of epilepsy have long been reported, but prevalence varies (1). 18% of non epileptic group exhibited epileptic discharges on EEG, 68% of the epileptic group revealed epileptifrom EEG finding before onset of epilepsy. No difference was observed concerning the sex ratio (2). Although EEG abnormalities in an ASD population that has not had clinical seizures or prior abnormal EEGs is unknown. There is no current consensus on whether treatment of EEG abnormalities may influence (3). Epileptoform EEG finding predict subsequent onset of epileptic seizures (2).

**Background:**

ASD varies widely in symptoms and severity, making a diagnosis may be difficult. Many cause have been proposed but its theory of causation is still questionable and ultimately unknown.(4) . Problem with social interaction, repeated action or body movements , unusual interest in objects, great Variation in abilities, Under or over reaction to one or more of 5 senses; sight, Touch, taste, smell, or hearing(5).

The centres for disease controls Autism and developmental disabilities monitoring(ADDM) network reports that in 2014 , approximately 1 in 59 children in the United States( 1 in 37 boys and 1 in 51 girls), has been identified with an Autism Spectrum Disorder (ASD) (3). ASD averages a 4.3: 1 male to female ratio (4). Autism has increased dramatically since the 1980s. , at least partly due to changes in diagnostic practice, It is unclear whether prevalence has actually increased (4) and as yet unidentified environmental risk factors cannot ruled out(5).

**Objectives:**

General : Objectives of the study is to report the electro clinical evaluation of children with ASD with or without seizure history.

Specific:

* To observe the association between epilepsy and ASD.
* To encourage EEG in case of ASD with suspected scissure.
* EEG test may have a role in the management of Autism Spectrum Disorder.

**Materials and Methods:**

Study place: DR. MR Khan Shishu Hospital and ICH.

Study design: Retrospective observational study.

Study period: 5 years

Sample size: sample size will be 70 (available within these period), convenient sampling technique.

**Rationale of the Research:**

As epilepsy is one of negative factors on cognitive, adaptive and behavioural/ emotional outcomes for individuals with Autism, we try to establish the association of epilepsy in patient presented with ASD in a tertiary care hospital of our perspective.

**Inclusion criteria:**

All Children presenting with clinical features suggestive of autism and Autism spectrum disorders

* Speech,
* Communication
* Behaviour.

**Exclusion criteria:**

* Children less than 18 months of age
* Congenital malformation
* Syndromic baby

**Procedure:**

Retrospective review will be done in total 70 children who fulfilled the criteria during 2013-2019, at Dr. MR Khan shishu Hospital. We will contact the families to get the missing information over telephone. Detail medical and developmental history, physical examination and psychological assessment (M chart, SCQ) was done. EEG evaluation and electro clinical co-relation will be performed.

**Reference:**

1. Sj Spence, MT Schneider-paediatric research 65(6), 599-606, 2009.
2. Brain and Development , 2007 sep; 29(8), 486-90,ep,2007Feb26
3. Epilepsy and behaviour volume 8, issue 1, February 2006, pages 267-271.
4. The epidemiology of autism spectrum disorders, Annnu rev Public Health 2007.
5. etiology of infantile autism,; a review of recent advances in genetic and neurological research.

**Questionnaire**

ID NO:

Date:

1. **General consideration:**

Name

Age

Sex: 1.Male 2. Female

Residence: 1. urban 2. Rural

Socio-economic status: 1. Low 2. Middle 3. High

**Clinical presentation:**

|  |  |  |
| --- | --- | --- |
| Sl no |  | Chief complaints stated by the parents or attendance |
|  | Speech problem |  |
|  | Communication problem |  |
|  | Behavioral problem |  |
|  | Convulsion |  |
|  | Sleep disturbance |  |
|  | Others |  |

1. **Physical findings:**

OFC:

Pallor:

Face: 1. Emotionless face 2. Normal expression

**Speech problem:**

**1**. Expressive language 2.Receptive language

3. Meaning full words/ sound

**Behavioral problem:**

* Unusual crying or laughing
* Hyperactivity
* Stereotype
* Self-injury
* Spinning and swinging
* Inattentiveness

**Communication:**

* Problem in Eye contact
* Production of meaningless sound
* Spontaneous response
* Follow instruction

**Socialization:**

* Understanding parents, family members
* Peer play
* Group play

**Exposure to Media:** hours per day, type of media

**Sleep disturbance:** duration

**C. Investigations:**

1. Psychological findings: (by Modified Check list for Autism in toddler ( M chart), Social Communication Questionnaire (SCQ), Autism Diagnostic Observation Schedule (ADOS)
2. EEG findings:

**D. Intervention:**

1. Psychological intervention
2. SLC
3. Occupational therapy
4. Schooling:
5. Nutritional advice.
6. Play therapy
7. ADL activities
8. Medicine