Study of Autistic Features among Children and Adolescents with Congenital Adrenal Hyperplasia

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Introduction

- In the general population, Autism spectrum disorder (ASD) can be found more frequently in males than females. This male predominance indicates that high androgen levels may prenatally have influence on development of autistic traits.

- The 'extreme male brain' theory (EMB) states that exposure to high androgen levels during the critical window of fetal development gives rise to behavioral changes contributing to ASD.

- Congenital Adrenal Hyperplasia (CAH) is an ideal way to study the influence of androgens on behavior in children after exposure to high testosterone levels in fetal development.

Objectives

- To study the occurrence of autistic features among children and adolescents diagnosed with CAH and to assess the relationship between levels of serum Testosterone and autistic features found among them.

Methods

- This study included 51 children and adolescents with CAH attending the Endocrinology clinic in Alexandria University Children's Hospital, Egypt.

- Thorough history taking and clinical examination were done with emphasis on behavioral abnormalities pointing towards presence of autistic traits according to DSM-5 criteria.

- Severity rating scale for the ASD using CARS-2 scale was done. Total serum testosterone was measured.

Results

- There were 36 females (70.6 %) and 15 males (29.4%) their mean age was 7.3 years with mean duration of CAH of 6.7 years.

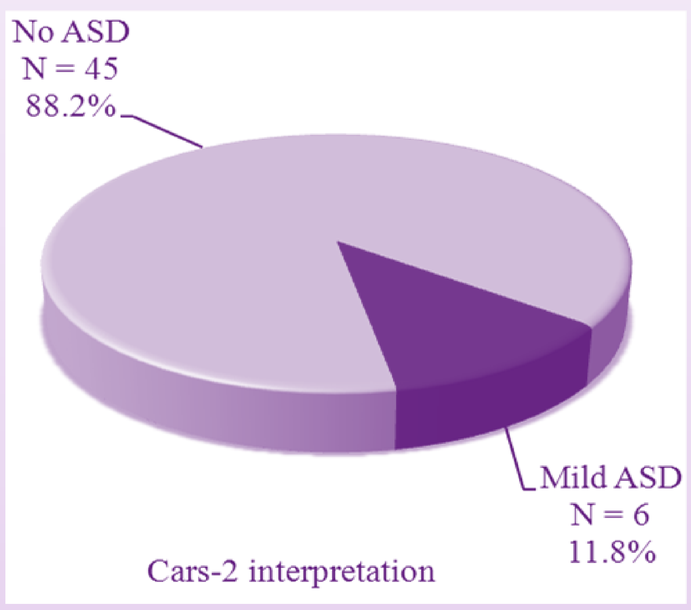
- There were 4 cases (7.8%) still had elevated levels of serum Testosterone.

- According to CARS-2, 6 children (11.8%) showed mild autistic disorder, however all children were normal by DSM-5.

- Those children with mild autistic features were 3 males and 3 females, and only one of them still had elevated Testosterone.

Distribution of the studied cases according to Childhood Autism Rating Scale (CARS-2)

CARS-2	N= 51	
	No.	%
Cars-2 raw score Min. – Max. Mean ± SD.	15.0 – 35.0 17.69 ± 4.74	
Cars-2 interpretation		
No ASD	45	88.2
Mild ASD	6	11.8



Distribution of 6 cases diagnosed mild ASD by CARS-2 test according to different parameters

	n = 6	
	No.	%
Sex (M/F)	3(50%) / 3(50%)	
Age (years)	3.20 ± 0.57	
Age at diagnosis (Months)	0.98 ± 1.07	
Duration of disease (years)	3.10 ± 0.59	
Pretreatment Testosterone	3.88 ± 7.18	
Last serum Testosterone	0.20 ± 0.43	
Last 17-OH progesterone	4.49 ± 3.17	
Type of Steroids Hydrocortisone Prednisone	 1 5	 16.7 83.3
Operated (No /Yes)	3(50%) / 3(50%)	

Conclusions

- Children with CAH may have more risk for autistic features so they have to be screened if they showed clinical suspicious behavior

References

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58ESPE P2-258
Sex differentiation, gonads and gynaecology or sex endocrinology
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Poster presented at: ESPE 2019 VIENNA
PosterSessionOnline.com