Language Disorders in Children with Epilepsy

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Overview

- Factors that contribute to language outcome
- Language difficulties associated with specific syndromes – LKS, CSWS, BRE
- Language function associated with other epilepsy diagnoses
- Recommendations for assessment
- Language and educational intervention
Factors that contribute to language outcome

There is no unique language profile for most epilepsies

- Intellectual ability
- Age of onset – early onset strongly predictive of language difficulties
- Seizure variables (control, duration)
- Type of epilepsy
- Cause of epilepsy
- Intervention – therapy, educational support, medication
- Individual reserve of child
Landau – Kleffner/ Continuous slow spike and wave during sleep – comparison

LKS
- Auditory agnosia
- Behavioural changes
- May present with aphasia or seizures
- Marked reduction or loss of speech

CSWS
- No auditory agnosia
- Behavioural deterioration
- Impaired language
- Global cognitive decline
Verbal Auditory Agnosia

- Also called ‘word deafness’
- Affects perception of spoken language
- May be due to aberrant phonemic decoding
- May affect perception of pitch and emotional prosody
- May affect perception of all sound
Language assessment – LKS

Language History
- development
- age of onset
- medication
- performance variability

Speech:
- Rate
- Amount
- Quality

Assessment:
Language: receptive & expressive
- Content (semantics)
- Form (syntax)
- Use (pragmatics)

Auditory agnosia
- Environmental sounds
- Phonological processing
Assessment – LKS (continued)

- Preferably joint assessment with clinical neuropsychologist
- Watch for child’s reliance on visual cues
- Use gesture
- Watch for responses to all sound
- Video – baseline
- Behavioural problems: reassure
Language assessment CSWS

Language history:
- early development
- age of onset
- medication
- variability

Speech – rate, amount, quality

Language assessment
- Content, form & use
- Standardised tests to obtain baseline measurements
- Receptive and expressive vocabulary
Language assessment - BRE

- Routine speech and language assessment
- Child may have problems with working memory
- History: monitor school progress – especially reading and spelling
- Detailed assessment of phonological analysis skills
Epilepsy can result in:

- Impaired or irregular progress
- Language stagnation
- Slow language development
- Intermittent dysfunction – may be subtle

It can be difficult to distinguish between a transitory vs core deficit.
Assessment:

- Standardised batteries
- Memory and attention
- Discourse: cohesion, reference, planning and organisation
- Word retrieval: confrontation naming plus word associations
- Phonological processing
- Longitudinal: measure receptive vocabulary
Discourse and epilepsy

- Limited research
- Strong links between epilepsy and behavioural problems
- Conversation is an important component of social skills
Previous studies (discourse)

- Children with epilepsy speak less
- Use fewer referents (pronouns, demonstratives or comparatives)
- Use fewer connectives between sentences

Observers may have difficulty tracking the child’s ideas and identifying who they are talking about
Discourse – complex partial seizures (cps)

- Age and gender matches
- Children with CPS and primary generalised epilepsy were impaired with use of conversational repair
- Children with temporal lobes seizures made more syntactic and referential revisions
- Children with frontal lobe activity used few fillers
Overuse of syntactic and referential revisions makes conversation stilted, artificial and overdetailed. Percentage usually declines with age along with increase of more complex revisions.

Fillers: associated with processing and planning conversation and are high level linguistic activity. Monitoring conversation is a frontal lobe function.
Intervention and educational issues

- Thorough assessment – medical, psychological, speech pathology
- Regular reviews
- Performance can be erratic
- Early intervention
- Speech therapy
**Strategies**

- Integration aide
- Classroom seating
- Breaking information into small segments
- Using visual cues – labels; pictures
- Using computer programs
- Repetition and drills
- Pre-learning curriculum vocabulary
- Language component - IEP
Strategies – auditory agnosia

- Individual assistance
- Intensive teaching of reading skills
- Use of auditory trainer/amplifier
- Functional/compensatory approach to language – visual aids/sign language
- Use of cued articulation (Passy) or ‘Prompt’ strategies
- Colour system to reinforce syntax and aid comprehension
- “Graphic” conversation balloons to help develop sequencing skills – stories.
References

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