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Premier accès psychotique aigu de l'adolescent : Démarche
diagnostique en situation d'urgence

Acute first psychotic episode in adolescents: A diagnostic ap-
proach in emergency settings

Primer episodio psicótico agudo del adolescente: abordaje
diagnóstico en situación de urgencia

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RÉSUMÉ

Objectif : Établir une démarche diagnostique structurée et hiérarchisée du premier accès psychotique aigu de l'adolescent en situation d'urgence, afin d'optimiser la prise en charge initiale et d'améliorer le pronostic à court et à long terme.

Méthode : Revue narrative de la littérature fondée sur une recherche dans les bases PubMed et Cochrane (articles en français et en anglais ; mots-clés : first episode psychosis, early-onset psychosis, emerging psychosis, adolescent, emergency, secondary psychosis, duration of untreated psychosis), complétée par une recherche manuelle dans les bibliographies des articles retenus, l'Encyclopédie Médico-Chirurgicale (EMC), des ouvrages de référence et les recommandations des sociétés savantes, portant sur les données épidémiologiques, cliniques et diagnostiques du premier épisode psychotique chez l'adolescent en situation d'urgence.

Résultats : La démarche diagnostique recommandée s'organise en trois temps complémentaires : (1) accueil du patient et élimination des étiologies organiques, guidée par des signes d'alerte, par anamnèse médicale et examens complémentaires ; (2) établissement du diagnostic positif intégrant l'histoire développementale et de la maladie, et l'estimation de la durée de psychose non traitée (DPNT) ; (3) identification des facteurs de gravité pronostique permettant de stratifier le risque de rechute et de chronicisation et d'adapter l'intensité du suivi.

Conclusion : Une intervention précoce et multidisciplinaire, guidée par une démarche diagnostique hiérarchisée impliquant pédopsychiatres, médecins somaticiens, famille et école, est susceptible d'améliorer le pronostic à court et long terme en limitant la transition vers des troubles psychotiques chroniques.

Mots-clés : Psychose émergente ; adolescence ; premier épisode psychotique ; diagnostic d'urgence ; durée de psychose non traitée.

RESUMEN

Objetivo: Establecer un abordaje diagnóstico estructurado y jerarquizado del primer episodio psicótico agudo del adolescente en situación de urgencia, con el fin de optimizar el manejo inicial y mejorar el pronóstico a corto y largo plazo.

Método: Revisión narrativa de la literatura basada en una búsqueda en PubMed y Cochrane (artículos en francés e inglés; palabras clave: first episode psychosis, early-onset psychosis, emerging psychosis, adolescent, emergency, secondary psychosis, duration of untreated psychosis), completada con una búsqueda manual en las bibliografías de los artículos seleccionados, la Encyclopédie Médico-Chirurgicale (EMC), obras de referencia y las recomendaciones de las sociedades científicas, sobre los datos epidemiológicos, clínicos y diagnósticos del primer episodio psicótico del adolescente en situación de urgencia.

Resultados: El abordaje diagnóstico recomendado se organiza en tres etapas complementarias: (1) acogida del paciente y descarte de las etiologías orgánicas, guiado por signos de alarma, mediante la anamnesis médica y exploraciones complementarias; (2) establecimiento del diagnóstico positivo, integrando la historia del desarrollo y de la enfermedad y la estimación de la duración de la psicosis no tratada (DPNT); (3) identificación de los factores de gravedad pronóstica que permiten estratificar el riesgo de recaída y de cronificación y adaptar la intensidad del seguimiento.

Conclusión: Una intervención precoz y multidisciplinar, guiada por un abordaje diagnóstico jerarquizado que implique a psiquiatras infantojuveniles, médicos somáticos, familia y escuela, puede mejorar el pronóstico a corto y largo plazo al limitar la transición hacia trastornos psicóticos crónicos.

Palabras clave: Psicosis emergente; adolescencia; primer episodio psicótico; diagnóstico de urgencia; duración de la psicosis no tratada.

ABSTRACT

Objective: To establish a structured and hierarchical diagnostic approach to the first acute psychotic episode in adolescents in emergency settings, in order to optimise initial management and improve short- and long-term prognosis.

Methods: Narrative review of the literature based on a search of PubMed and Cochrane (articles in French and English; keywords: first episode psychosis, early-onset psychosis, emerging psychosis, adolescent, emergency, secondary psychosis, duration of untreated psychosis), supplemented by a manual search of the reference lists of included articles, the Encyclopédie Médico-Chirurgicale (EMC), reference textbooks and learned society guidelines, covering epidemiological, clinical and diagnostic data on first-episode psychosis in adolescents in emergency settings.

Results: The recommended diagnostic approach is organised in three complementary steps: (1) receiving the patient and ruling out organic aetiologies, guided by red flags, through medical history and investigations; (2) establishing the positive diagnosis, integrating developmental and illness history and an estimate of the duration of untreated psychosis (DUP); (3) identifying prognostic severity factors in order to stratify the risk of relapse and chronicity and to adapt the intensity of follow-up.

Conclusion: Early, multidisciplinary intervention guided by a hierarchical diagnostic approach involving child and adolescent psychiatrists, somatic physicians, family and school is likely to improve short- and long-term prognosis by limiting the transition to chronic psychotic disorders.

Keywords: Emerging psychosis; adolescence; first-episode psychosis; emergency diagnosis; duration of untreated psychosis.

INTRODUCTION

Psychosis is defined by a loss of contact with reality and encompasses several diagnostic entities, including schizophrenia, schizoaffective disorder and other related conditions [1]. During adolescence, it has distinct clinical features owing to the substantial neurodevelopmental changes characteristic of this critical period [2].

In child and adolescent psychiatry, an acute psychotic episode is characterised by the emergence of overt psychotic

symptoms—delusions, hallucinations and disorganised thinking—of clear clinical intensity, persisting for more than seven days, with the full episode lasting between one and six months [3].

Clinically, it presents a complex diagnostic emergency: symptoms may be transient, have an organic (approximately 5.6 %) [4], substance-related or medication-related cause, or reveal an underlying or emerging psychiatric disorder.

The course of first-episode psychosis in adolescents is heterogeneous. During adolescence, an acute psychotic episode may remain an isolated event or mark the onset of bipolar disorder or schizophrenia [3,5]. A recent meta-analysis of 14 studies (12,920 patients across all age groups) of acute and transient psychotic disorders found that the initial diagnosis was retained in only 41 % of patients; 39 % subsequently developed a schizophrenia spectrum disorder and 19 % a mood disorder, while 43 % experienced a relapse [6]. This clinical heterogeneity reflects the absence of a single pattern of illness progression and supports an individualised approach to management and follow-up.

RATIONALE AND OBJECTIVE OF THE REVIEW

To date, there is no international or national consensus on the investigations to be performed in first-episode psychosis, resulting in substantial variation in clinical practice [4]. This is particularly concerning during adolescence, when the diversity of clinical presentations and the frequency of secondary causes complicate the initial emergency assessment.

This article presents a structured, hierarchical diagnostic approach for emergency settings, with the aim of optimising the initial management of first-episode psychosis in adolescents and improving short- and long-term outcomes.

LITERATURE SEARCH AND REVIEW METHODS

This narrative review was based on searches of PubMed and Cochrane for articles published in French and English. The keywords, derived from those in the abstract, were: “first episode psychosis”, “early-onset psychosis”, “emerging psychosis”, “adolescent”, “emergency”, “secondary psychosis” and “duration of untreated psychosis”, combined using the Boolean operators AND/OR. Eligible publications included systematic reviews, meta-analyses, cohort or cross-sectional studies and guidelines concerning individuals younger than 18 years, or first-episode psychosis in young people when paediatric data were insufficient, and addressing epidemiology, clinical presentation, aetiological diagnosis or prognosis. The search was supplemented by manual searches of the reference lists of selected articles, enabling the inclusion of key publications (meta-analyses and seminal studies), as well as the reference diagnostic classification (DSM-5), the Encyclopédie

Médico-Chirurgicale, reference textbooks on adolescent psychopathology and professional society guidelines.

RESULTS

Epidemiological data

Psychotic symptoms are not uncommon during development. Studies report an estimated prevalence of 17 % among children aged 9–12 years and 7.5 % among adolescents aged 13–18 years [7]; most symptoms are transient and do not predict the onset of a psychotic disorder [8].

In clinical practice, acute psychotic episodes are not uncommon in adolescents: their prevalence in clinical populations ranges from 10 % to 30 % across studies, and 5–20 % of adolescents admitted to psychiatric inpatient units present with acute psychotic symptoms [9]. In a cohort of 404 adolescent psychiatric inpatients, 28 % had psychotic symptoms at admission, with 11 % reaching the clinical threshold [10]. Internationally, a meta-analysis of 192 epidemiological studies estimated that 12.3 % of psychotic disorders begin before the age of 18 years [11].

Table 1. Prevalence of psychotic symptoms by study population

Population	Prevalence
Psychotic symptoms in children (9–12 years)	17 %
Psychotic symptoms in adolescents (13–18 years)	7.5 %
Acute psychotic episodes in clinical populations	10–30 %
Adolescent psychiatric inpatients with acute psychotic symptoms	5–20 %

Prevalence is expressed as a percentage of the relevant population [7,9].

Clinical features of psychotic symptoms in adolescence

Psychotic experiences reported by young people are not specific to an established psychotic disorder [12–15]. Indeed, a substantial proportion of adolescents with positive symptoms (hallucinations and disorganised thinking and behaviour) have other psychiatric disorders or, less frequently,

an organic cause or exposure to medication or psychoactive substances.

During adolescence, the symptomatology of psychosis and acute psychotic episodes is heterogeneous and shows developmental specificities. Hallucinations, delusions, disturbances in the form and content of thought, behavioural disorganisation, negative symptoms and affective manifestations coexist to varying degrees. This clinical diversity often makes the initial as-

assessment complex and non-specific [12–14].

Although onset may be clearly abrupt in some cases, it is more often preceded by a prodromal phase involving attenuated symptoms, declining academic performance or social functioning, and cognitive or interpersonal difficulties, with a highly variable duration of symptom development [13,15,16].

Dimensional analyses suggest that negative symptoms and disorganisation play a central role in this population and may sometimes have greater clinical significance than perceptual abnormalities [14,16].

The prominence of negative symptoms is an important finding: present in approximately 60.8 % of young people with early-onset psychosis, they are associated with less favourable clinical, functional and treatment outcomes [17].

Compared with adults, adolescents with early-onset psychosis frequently have a longer duration of untreated psychosis, poorer premorbid functioning, more frequent bizarre behaviour and a higher prevalence of primary negative symptoms [18,19].

In terms of prognosis, a longer duration of untreated psychosis, persistent negative symptoms and substance use are among the markers most consistently associated with an unfavourable course, reflected in lower remission rates, a higher risk of relapse and poorer functioning at follow-up [20–22].

Diagnostic approach in emergency settings

The proposed diagnostic approach comprises three complementary steps, organised hierarchically.

- **Step 1: receiving the patient and excluding an organic cause**

Management begins by receiving the adolescent and their family in a calm, safe environment, adopting an empathic and reassuring approach. If agitation is present, verbal de-escalation techniques and environmental measures are preferred as first-line interventions; restraint or pharmacological sedation is considered only as a second-line option [23].

This is followed by a comprehensive medical history and a thorough clinical examination, supplemented by investigations. Organic causes account for only approximately 5 % of first psychotic episodes [4,24], whereas secondary causes overall (including substance-related and medication-related causes) account for 14 % [24], and up to 23.5 % in a paediatric inpatient cohort in which age below 13 years and catatonia were associated with a secondary cause [15].

Medical history:

- **Medical history: genetic syndromes, neurological disorders, and metabolic or endocrine diseases**

- **Psychiatric history: neurodevelopmental disorders, psychological and affective disorders, trauma, suicide attempts and previous similar episodes.**

Substance use: specify the substance, amount, frequency and duration [25,26]. Cannabis is a major risk factor for early-onset psychosis [27].

Medication history:

Assess exposure to corticosteroids, antibiotics, methylphenidate and other psychostimulants, bromocriptine, anticholinergic agents, dopaminergic agents and levetiracetam

Clinical examination:

- Vital signs, level of consciousness and orientation to time and place
- Full neurological examination
- Examination of other organ systems as clinically indicated

Red flags suggesting an organic cause include abrupt onset (over a few days), very early onset (before the age of 13 years) [15], impaired alertness or fluctuating confusion, disorientation, prominent visual, olfactory or tactile hallucinations, seizures, abnormal movements (orofacial dyskinesias), focal neurological signs, catatonia, autonomic dysfunction (tachycardia, hyperthermia and blood pressure instability), headache or fever, rapid cognitive decline, and absence of psychiatric history or risk factors. Their presence re-

quires an extended work-up (brain MRI, EEG and lumbar puncture with testing for anti-NMDAR antibodies in cerebrospinal fluid and serum), in collaboration with paediatric neurologists [28,29].

First-line investigations:

Complete blood count with differential, CRP, serum electrolytes including calcium, liver and renal function tests, TSH, blood glucose, urine dipstick testing, urine toxicology screening, pregnancy testing (if indicated) and ECG. Investigations guided by clinical findings or red flags include EEG, brain MRI, lumbar puncture, caeruloplasmin and urinary copper, vitamin B12 and folate, and HIV and syphilis serology [30,31]. A lipid profile and fasting blood glucose are part of the baseline assessment before antipsychotic treatment.

Table 2. Main organic causes to consider in first-episode psychosis [9,24,31]

Neurological disorders	Neurometabolic diseases	Metabolic and endocrine disorders	Genetic diseases
Temporal lobe epilepsy / limbic seizures	Wilson's disease*	Hyponatraemia, hypernatraemia	Trisomy 21 (Down syndrome)
Head injury, haematoma, tumour, vascular malformation	Niemann–Pick disease type C	Hypocalcaemia, hypomagnesaemia	Velocardiofacial syndrome (22q11.2 deletion)
Infectious meningoen- cephalitis (including HIV and syphilis)	Disorders of homocysteine metabolism	Hypoglycaemia, non- ketotic hyperosmolar hy- perglycaemia	Marfan syndrome
Autoimmune diseases: systemic lupus erythema- tosus, anti-NMDAR en- cephalitis, Hashimoto en- cephalopathy	Acute intermittent porphy- ria	Hyperthyroidism and hy- pothyroidism; vitamin B12 deficiency	Huntington's disease
	Metachromatic leu- kodystrophy, adrenoleu- kodystrophy		
	Urea cycle disorders		

* A rare but treatable neurometabolic cause that should be investigated (caeruloplasmin and urinary copper), particularly when associated hepatic or neurological signs are present [31]. Abbreviations: NMDAR, N-methyl-D-aspartate receptor.

Table 3. Medication-related and substance-related causes, and psychiatric differential diagnoses of psychotic symptoms [9,32–36].

Medication-related	Substance-related	Psychiatric
Anticholinergic agents	Cocaine	Post-traumatic dissociation
Dopaminergic agents	Cannabis, synthetic cannabinoids	Depression with psychotic features
Corticosteroids	Opiates	Manic episode
Antibiotics (fluoroquinolones, isoniazid, macrolides, penicillins, trimethoprim–sulfamethoxazole)	Amphetamines, synthetic cathinones	Emerging borderline personality disorder
Levetiracetam	Hallucinogens (LSD, mescaline)	
Methylphenidate	Trichloroethylene	

Abbreviations: LSD, lysergic acid diethylamide.

Among substance-related and medication-related causes, psychostimulants warrant particular attention during adolescence because methylphenidate and amphetamines are prescribed for attention-deficit/hyperactivity disorder (ADHD), and because of the non-medical use of amphetamines and synthetic cathinones. A recent meta-analysis of 77 studies (687,912 participants) found a pooled incidence of psychosis of 0.6 % among individuals receiving stimulants for therapeutic purposes, compared with a prevalence of approximately 33 % with non-therapeutic use (illicit use, recreational use or misuse) [36]. Psychosis associated with non-therapeutic use was linked to higher doses, acute onset, persecutory delusions, hallucinations and a higher risk of recurrence, whereas episodes occurring during treatment usually resolved following dose reduction or discontinuation of the stimulant [36]. Although low, this clinically relevant risk during prescribed use primarily affects individuals with psychiatric vulnerability [35,36]. In practice, when an adolescent receiving treatment for ADHD pre-

sents with a first psychotic episode, the drug, dosage and any recent treatment changes should be documented, and misuse or concomitant use of other substances should be systematically assessed.

- **Step 2: establishing a positive diagnosis**

A positive diagnosis is based on reconstructing the patient's developmental history and assessing the following:

1. Mode of onset and duration of the clinical signs
2. Clinical presentation: positive symptoms (delusions and hallucinations), negative symptoms (isolation and withdrawal), cognitive and affective disturbances, and disorganisation.
3. Functional impact: on interpersonal relationships, social functioning, basic drives and school functioning
4. DUP (duration of untreated psychosis): to be estimated for its prognostic, rather than diagnostic, value [37]

5. Premorbid functioning: academic and social functioning before the current episode

- **Step 3: identifying factors associated with poor prognosis**

This crucial step enables prognostic risk stratification and adjustment of follow-up intensity [5,38]:

1. Early age at onset (< 13 years), although its independent prognostic value remains debated [38]
2. Gradual onset associated with impaired premorbid functioning
3. Psychiatric or medical comorbidities
4. Predominance of negative symptoms
5. A family environment providing inadequate emotional containment or involving maltreatment

In Morocco, adolescent-specific data remain scarce. In a cross-sectional study of 630 patients with schizophrenia from southern and south-eastern Morocco, the median DUP was 12 months; approximately half of the patients had first con-

sulted a traditional healer. This initial pathway was the main determinant of prolonged DUP, alongside insidious onset, low educational attainment and poor insight [39]. Among school-attending adolescents, reported cannabis use was 3.4 % in 2021 [40], supporting systematic screening. Finally, a recent case from Casablanca of anti-NMDAR encephalitis presenting as an isolated first psychotic episode in a 16-year-old girl underscores the local relevance of red flags for organic causes [41].

Clinical note: Poor treatment adherence, persistent substance use and a family environment providing inadequate emotional containment increase the risk of relapse after a first episode by factors of 4, 3 and 2.3, respectively [42]. Impaired premorbid functioning, greater initial symptom severity and negative symptoms predict an unfavourable course [38]; male sex, gradual onset, absence of a precipitating factor, a schizoid premorbid personality and a family history of schizophrenia are associated with progression to schizophrenia [5].

Practical summary: a structured diagnostic approach

Table 4. Structured diagnostic approach to a first acute psychotic episode in adolescents in emergency settings

Step	Objective	Key elements
Step 1	Receive the patient and ensure safety; exclude an organic cause	• Manage psychomotor agitation if present; assess suicide risk and risk of aggression towards others. • Identify red flags for organic causes: abrupt onset, confusion, catatonia, neurological signs and autonomic dysfunction • Medical, medication and substance use histories; full clinical and neurological examination • First-line investigations: CBC with differential, CRP, serum electrolytes, calcium, liver and renal function tests, TSH, blood glucose, urine toxicology, β-hCG and ECG • If red flags are present: EEG, brain MRI and lumbar puncture with anti-NMDAR antibody testing
Step 2	Establish a positive diagnosis	• Developmental history • Mode of symptom onset and precipitating factor • Clinical presentation: positive and negative symptoms, disorganisation and mood symptoms • Premorbid functioning and functional impact • Estimate the duration of untreated psychosis (DUP)
Step 3	Assess prognostic severity and tailor follow-up intensity	• Very early onset (< 13 years) • Gradual onset and impaired premorbid functioning • Predominance of negative symptoms • Psychiatric, medical or substance use comorbidities • Family environment providing inadequate emotional containment or involving maltreatment

Abbreviations: β -hCG, beta subunit of human chorionic gonadotropin; CBC, complete blood count; CRP, C-reactive protein; DUP, duration of untreated psychosis; ECG, electrocardiogram; EEG, electroencephalogram; MRI, magnetic resonance imaging; NMDAR, N-methyl-D-aspartate receptor; TSH, thyroid-stimulating hormone.

Key points for clinical practice

- Excluding secondary causes: approximately 5 % have organic causes, and up to 23.5 % have secondary causes (including substance-related causes) in children and adolescents
- Establishing a positive diagnosis
- Estimating DUP: the main modifiable prognostic factor
- Identifying factors associated with poor prognosis to stratify risk

CONCLUSION

A first acute psychotic episode in an adolescent constitutes a complex diagnostic emergency owing to the developmental

characteristics of this period and the often diverse and fluctuating nature of the symptoms.

A structured, hierarchical diagnostic approach focused on excluding organic causes, establishing a positive diagnosis and identifying factors associated with poor prognosis is essential in emergency settings. This systematic approach supports safe initial management, allows follow-up intensity to be tailored to the patient's prognostic risk profile and may contribute to improved short- and long-term outcomes.

Early multidisciplinary intervention involving the entire child and adolescent healthcare team, schools and families op-

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timises the likelihood of full remission and limits progression to chronic psychotic disorders. The key elements are: (1) assessment for organic causes; (2) a posi-

tive diagnosis; (3) estimation of DUP, the main modifiable prognostic factor; and (4) identification of factors associated with poor prognosis to stratify relapse risk.

Conflicts of interest

The authors declare no conflicts of interest.

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