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Follow-up and family study of postpartum psychoses

Part II: early versus late onset postpartum psychoses

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Abstract Patients suffering from a severe psychiatric postpartum disorder (n = 119) were classified according to early onset (EO) of symptoms, i.e. onset within 2 weeks postpartum, versus late onset (LO) in the 3-month period following delivery. The patients were admitted for the first time in their life to a psychiatric hospital. The EO cases more often had a manic syndrome, the symptomatology of cycloid psychoses, signs of confusion and an abrupt onset of illness. They were also younger at the index delivery and at the first episode of illness. No important difference in the distribution of diagnoses considering the long-term course was found in the two groups. The global psychopathological outcome was also similar. There is no definite evidence that different diseases are provoked in the early and later postpartum period.

Key words Puerperal psychosis · Lactational psychosis Mania · Cycloid psychosis · Parity

Introduction

The separation of psychoses starting soon after delivery from psychoses beginning later in the postpartum period goes back at least to Marcé (1858) who, using a time limit of 6 weeks, distinguished puerperal from lactational disorders. Despite hypotheses postulating specific aetiologies, no such causal factors could be identified for postpartum psychoses as a whole or either of the two subgroups. An exception are the rare organic psychoses which occur mainly in the early puerperium. Today postpartum psychoses are considered functional psychoses beginning in this particular period. The distinction of puerperal and lactational psychoses has almost disappeared from the psychiatric literature since the concept of postpartum psychoses as a separate nosological entity has been abandoned. However, according to the knowledge of the authors, no studies have been published in which early-onset (EO) psychoses were compared with late-onset (LO) psychoses using modern methodology. The question of a selective triggering of subgroups of functional psychoses in particular time periods has been raised anew. Only psychoses with onset of illness within 2–3 weeks following delivery have been considered aetiologically linked to this event (Brockington et al. 1981; Brockington and Cox-Roper 1988). The present follow-up and family study compares EO with LO postpartum psychoses.

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Method

As described in detail elsewhere (Schöpf and Rust 1994) 119 patients with postpartum psychosis and 542 first-degree relatives were investigated. The index episode began within 3 months following delivery and was the first decompensation in life leading to psychiatric hospitalisation. The patients were hospitalised either at the Psychiatric University Hospital of Lausanne between 1949 and 1980 or at the Psychiatric University Hospital of Zurich between 1956 and 1964, and followed up after a mean of 21 years (range 2–35 years). The patients were classified using the DSM-III-R and according to onset of the index episode within 2 weeks postpartum versus late onset. The study is on 117 patients because in 2 patients it was impossible to determine the onset of illness.

Results

Characteristics of the two groups are shown in Table 1. The overall distribution of diagnoses at the index episode differed statistically significantly, when a reduction to three groups was performed. In the individual comparisons the frequency of a manic syndrome was increased in the EO group applying a one-tailed test (Fischer-Yates test; $p < 0.03$; Bonferroni correction). Psychoses with EO also had a higher frequency of cycloid psychoses, of a confuso-oneiroid syndrome and of an acute onset of illness.

Table 1 Characteristics of patients with early versus late onset of illness following delivery (nominal values in %, quantitative data $x \pm s$). For the exact definitions of items see Schöpf and Rust (1994). (*D* depression; *M* mania; *MSCH* schizoaffective mania; *DSCH* schizoaffective depression; *SCHF* schizophreniform psychosis; *BRP* brief reaction psychosis; *SCH* schizophrenia; *SCHA* schizoaffective psychoses; *A* affective psychosis)

	Early onset ($n = 88$)	Later onset ($n = 29$)	p-value	Correlation
Index episode, personal history				
DSM-III-R diagnoses:				
D/M, MSCH/DSCH/SCHF, BRP/SCH	49/19/5/26/1	69/4/10/17/0	0.04 (1)[b]	0.24 (5)
Cycloid psychosis	37.5	10	0.006 (1)	0.25 (5)
Confuso-oneiroid syndrome	40	7	0.002 (1)	0.31 (5)
Paranoid syndrome	3	28	0.002 (4)	0.36 (5)
Acute onset	58	14	0.001 (1)	0.38 (5)
Age at delivery	26.0 ± 4.7	29.4 ± 4.1	0.001 (3)	0.31 (6)
Primiparae	66	48	n.s. (1)	0.16 (5)
Psychopathology during index gravidity	22	17	n.s. (1)	0.05 (5)
Previous psychotic episodes	12.5	14	n.s. (4)	0.02 (5)
Age at first episode of illness	25.3 ± 4.9	28.7 ± 4.2	0.002 (3)	0.30 (6)
Follow-up				
Nonpuerperal relapses	65	66	n.s. (1)	0.01 (5)
DSM-III-R diagnoses:				
A/SCHA/SCHF, BRP/SCH	57/18/19/6	62/17/7/14	† (1)	0.19 (5)
Proportion of bipolar psychoses	32	31	n.s. (1)	0.01 (5)
Relation unipolar/bipolar psychoses	56/44	61/39	n.s. (1)	0.04 (5)
Global psychopathological outcome	1.2 ± 0.8	1.4 ± 1.1	n.s. (2)[a]	††
Duration of follow-up (duration of survival in patients who had died)	20.0 ± 8.5	21.7 ± 8.8	n.s. (3)	0.03 (6)
Family history				
Family history of endogenous psychoses	32	45	n.s. (1)	0.12 (5)
Global morbidity risk	10.5	13.2	n.s. (1)	0.04 (5)
Morbidity risk for bipolar psychoses	2.8	1.8	n.s. (4)	0.03 (5)

[a] Approximative measure (ordinal scale niveau); [b] Comparison between cases with depressive syndrome/manic syndrome/others; the patient with schizophrenia was excluded from calculation

† = The global χ^2 test may not be applied reliably due to expected frequency <5 in >20% of cells. †† = Due to variance heterogeneity the effect size could not be determined. *Statistical tests:* (1) χ^2; (2) *u*-test; (3) *t*-test; (4) Fischer-Yates test; (5) phi coefficient; (6) point-biserial correlation coefficient

A paranoid syndrome occurred significantly more frequently in LO cases. The age at the index delivery and the age at first onset of illness were significantly lower in the EO cases. There were more primiparae in the EO group, but the difference was not statistically significant.

Concerning the statistical comparison of the distribution of long-term diagnoses the global χ^2 test could not be applied reliably due to the expected frequency <5 in >20% of cells (Table 1). The phi coefficient of 0.19 does not suggest a strong difference. The proportions of cases with affective psychosis and with schizoaffective psychosis were almost identical in the two groups. The proportion of bipolar psychoses was also the same.

Some difference seems possible concerning the frequency of schizophreniform psychoses and brief reactive psychoses composed to schizophrenia, the latter being somewhat more frequent among late-onset cases. The global psychopathological outcome was similar in the two groups. The morbidity risk for functional psychoses in first-degree relatives showed no significant difference.

Discussion

There were a number of differences between EO and LO postpartum psychoses in this investigation. Perhaps other differences were also present, but they might not have been identified due to misclassification. The possibility of a reliable classification of the onset of illness appears to be limited. In an investigation in which this question was examined, only a $\kappa = 0.61$ was obtained (Brockington et al. 1981). In the present investigation no reliability study was performed.

A manic syndrome was seen mainly in EO cases in this study, which confirms the results of others (Brockington and Cox-Roper 1988; Meltzer and Kumar 1985). Cycloid psychoses were overrepresented among EO psychoses. Also in a group of high-risk patients, i.e. women with previous psychotic episodes who were pregnant, cycloid psychoses started predominantly within 3 weeks postpartum (McNeil 1986). However, Lanzcik et al. (1990) reported that cycloid psychoses were only slightly and nonsignificantly more frequent among EO cases.

The frequency of signs of confusion was increased in this study among EO in comparison to LO cases. Meyer (1911) reported that "amentia" was mainly seen in puerperal psychoses but not in lactational psychoses. Karnosh and Hope (1937) found "delirium" almost only in psychoses beginning within 4 weeks after delivery.

A high proportion of acute beginning of illness was found among EO cases, which has also been reported by Karnosh and Hope (1937). As shown elsewhere, an acute onset of illness in postpartum psychoses was strongly related to the symptomatology of cycloid psychoses and also to a confuso-oneiroid syndrome (Schöpf 1994).

In this investigation EO patients were younger than LO patients, and there was a nonsignificant overrepresentation of primiparae in the former group. Nonsignificant similar differences for both characteristics in the same directions were also found in epidemiological investigations (Paffenbarger 1982; Kendell et al. 1987). Differences of the same kind, but not investigated with statistical tests were reported in studies performed around the turn of the century (Schmidt 1881; Hoche 1892; Runge 1911). Furthermore, in an investigation of high-risk cases, patients who relapsed within 3 weeks after delivery were in a nonsignificant higher proportion primiparae and had a lower age at first onset of illness than patients who relapsed later (McNeil 1986).

The global morbidity risk for functional psychoses in the two groups was similar. Runge (1911) mentioned together with his own results five studies on "heredity" in postpartum psychoses, with three investigators reporting slightly higher frequencies in puerperal psychoses, and two in lactational psychoses. It appears that no further studies have been performed in the past decades.

No clear-cut differences in the distribution of diagnoses considering long-term course in EO compared to LO cases were found in this investigation. It is very likely that certain functional psychoses are selectively provoked in the postpartum period (Schöpf and Rust 1994). The similar distribution of diagnoses suggests that not only EO but also LO psychoses are related to childbirth. There are additonal arguments for this assumption. The hospitalisation rate remained elevated for at least 3 months after delivery according to the epidemiological investigation by Kendell et al. (1987). Furthermore, in patients with postpartum psychoses who had a puerperal relapse, a notable minority had the new puerperal episode later than 2 weeks postpartum (Schöpf 1994). Finally, psychoses may begin with the recurrence of menstruation (Esquirol 1838) or with weaning (Susman and Katz 1988). These events are, like the early postpartum period, associated with hormonal changes, which suggests a related pathophysiology.

The finding of the same proportion of bipolar psychoses in the two groups despite the elevated frequency of a manic syndrome at the index episode in EO psychoses seems contradictory. It might be that bipolar patients with predominantly manic episodes in the long-term course tend to have an EO, and patients with predominantly depressive episodes tend to have an LO. However, the number of cases in this investigation was too small for a statistical analysis of the question.

The significance of the increased frequency of cycloid psychoses in early onset cases is difficult to explain due to uncertainties of this diagnostic concept. This is also true for two characteristics strongly correlated with cycloid psychoses, i.e. the confuso-oneiroid syndrome and the acute onset of illness.

The tendency of patients with LO postpartum psychoses to be older and/or pluriparae might indicate that they suffer from the same disorders as EO patients but get ill after a longer latency following delivery. It has been mentioned that some patients with EO postpartum psychoses and puerperal relapses have the new puerperal episode later than within 2 weeks; a change in the opposite direction is rarely observed (see Schöpf 1994).

The various studies on postpartum psychoses applying the classification according to the temporal relation to delivery agree in a number of characteristics, e.g. in EO psychoses the presence of a manic syndrome, signs of confusion and acute onset of illness as well as the tendency for lower age and primiparity. It is not possible presently to decide how these characteristics are related to nosology and to which extent they indicate the presence of different diseases.

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