Schizoaffective Disorder

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It is well known that Kraepelin divided the psychoses into dementia praecox and manic–depressive illness on the basis of a supposed progressive deterioration for the first and a better long-term outcome for the latter. However, even Kraepelin himself reported that his clinical experience included many patients with features of both disorders. These patients were so many that he characterized their frequency as 'displeasing' (Angst 1986b). These cases have attracted the interest of researchers in the last few decades, but their diagnostic status is still uncertain.

In the early twentieth century, several authors also described forms of dementia praecox with an intermittent course and periods of excitement or depression. Lange described even catatonic syndromes in 14 % of those called 'circular disorders'. Bleuler suggested that the existence of mood and schizophrenic symptoms during the same episode should not change the diagnosis of schizophrenia (Angst 1986b). He also pointed out the need for prolonged observation to correctly differentiate schizophrenia from manic–depressive psychosis. In this frame he considered mixed cases to be isolated exceptions.

In 1878, Shulle regarded these cases as a transitional phase from manic depression to paranoia, while Hoffman in 1925 and Mayer-Gross in 1932 described the longitudinal course as beginning with mood symptoms and ending as schizophrenia and vice versa (Angst 1986b). But it was Jacob Kasanin (1897–1946) who first coined the term schizoaffective psychosis in 1933 (Kasanin 1933, 1994). Kasanin reported the course of nine young patients with good premorbid functioning, a sudden onset of both schizophrenic and mood symptoms and a good outcome. However, a review of these case histories might suggest they were essentially patients suffering from a mood disorder with psychotic features, according to contemporary classification systems. In 1937, Langfeldt described the so-called schizophreniform psychoses with many affective clinical elements and favourable outcome (Langfeldt 1937), while Kant in 1940 described 'recovered schizophrenics' as having more affective psychosis among their relatives in comparison to schizophrenic patients (Kant 1940). Valuable contributions in the nosology were made by Kurt Schneider (1887–1967) who described the so-called 'cases in between' (zwischen-fälle)

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schizophrenia and affective psychosis. In his view, no differential diagnosis between these two diseases could be made concerning the 'in-between cases'. Schneider also described for the first time a 'concurrent' and a 'sequential' form concerning these cases (Schneider 1973; Marneros 1983, 2003). In 1957 Karl Leonhard coined the term 'cycloid psychoses' (Leonhard 1957a, b).

After these studies which were based almost exclusively on clinical description and following Kant's report (in 1940) concerning the family history of 'recovered schizophrenics', George Vaillant also reported in 1962 that these patients were loaded with a family history of unipolar mood disorder and were depressed themselves (Vaillant 1962). In 1966 this was confirmed by the work of Astrup and Noreik. These authors suggested that the presence of mood symptoms and excitational confusion vs. blunted affect was predictive of a favourable course and outcome (Holmboe et al. 1968; Noreik et al. 1967; Astrup and Noreik 1966). Furthermore, in the late 1970s, a review of all available evidence at the time suggested that mood symptoms were predictive of better outcome, but on the contrary, 'schizophrenic' symptoms were not predictive of a worse outcome (Pope and Lipinski 1978). It is important to note, however, that a number of latter studies disputed the predictive value of mood symptoms as well (Croughan and Robins 1974; Welner et al. 1977a, b; Gift et al. 1980; Moller et al. 1982).

More recently it has been argued that schizoaffective disorder is simply the result of a number of weaknesses in contemporal classification systems (Malhi et al. 2008). However, while a psychiatrist with a broad concept of schizophrenia and bipolar disorder might be able to classify any patient (however, with a certain loss of reliability and validity), when a narrow concept is used, many patients do not fall into either diagnostic category. It is obvious that with strict application of the operationalized criteria, the diagnosis of schizoaffective disorder is limited to a small group of individuals, which might more probably be chronically ill and relatively treatment resistant (Averill et al. 2004). These in-between patients can be conceptualized as schizophrenics with mood symptoms, as mood patients with psychotic symptoms, as suffering from both schizophrenia and mood disorder, as suffering from an independent type of psychotic disorder or as 'interforms' that is as patients which an admixture of the aetiological factors causing schizophrenia and mood disorders. Since schizoaffective patients have better prognosis in comparison to patients with schizophrenia, this fact precludes the possibility of suffering from both schizophrenia and mood disorders. Additionally, the family history data with heavy loading of either schizophrenic or mood disorder cases is also against the idea of a distinct third kind of psychosis. No data in favour of an independent transmission of psychotic symptoms has been reported (Winokur et al. 1985), although the research efforts concerning this question are old and inadequate and the issue needs further study. The failure of a number of studies to recognize two clearly separate populations is in support of the last suggestion, that is, of the admixture of schizophrenic and mood aetiopathological factors (Kendell 1986). The existence of these cases can be conceived as a strong argument in favour of the 'unitary psychosis theory' (einheitspsychose), as conceived in the works of Joseph Guislain (1797–1860), Ernst Albrecht von Zeller (1804–1877), Wilhelm Griesinger (1817–1868) and

Heinrich Neumann (1814–1888) (Angst 2002; Berrios and Beer 1994; Moller 2008; Lake and Hurwitz 2006). Also at least to some extent, the concept of schizoaffective patients as cases in between disputes Jasper's hierarchical principle which is largely adopted by contemporary classification systems (Berner and Lenz 1986; Jaspers 1973). Probably with an attitude to compromise and synthesize the conflicting data, some authors suggest that schizoaffective disorder is a heterogenous group which includes both patients with schizophrenia and mood disorders as well as intermediate cases (Cheniaux et al. 2008; Laursen et al. 2005).

Nomenclature and classification of these cases has always been a problem. In most of the literature, the terms 'cycloid psychosis', 'psychogenic', 'reactive psychosis' and 'bouffee delirante' were used as synonyms of what today is called schizoaffective disorder. Several operationalized criteria sets were developed, and all of them required the presence of both affective and schizophrenic symptoms in some kind of combination and with a minimum duration (Kendell and Gourlay 1970; Welner et al. 1979, 1977b; Angst et al. 1979; Mendlewicz et al. 1980; Perris 1966; Tsuang et al. 1976). The best known are the Research Diagnostic Criteria developed by Spitzer et al. in 1978 (Spitzer et al. 1978a, b; Endicott et al. 1978). These criteria defined schizoaffective disorder as the acute co-occurrence of a full mood syndrome and one of a set of 'core schizophrenic' symptoms (e.g. bizarre delusions, first-rank symptoms or hallucinations). They further defined a depressed and a manic subtypes, as well as chronic and nonchronic subtypes. According to overall outcome, RDC defined a 'mainly schizophrenic subtype' and a 'mainly affective subtype'.

DSM-I proposed a schizoaffective type of schizophrenia reaction for patients with 'significant admixtures of schizophrenic and affective reactions'. However, the whole concept suggested that these patients are schizophrenics in nature. DSM-II introduced the excited and the depressed subtypes. It is to be noted that in line with the earlier editions of the DSM, most pharmaceutical trials of schizophrenia include also schizoaffective patients. DSM-III classified most 'in-between' cases as suffering from a mood disorder (e.g. with mood-incongruent psychotic symptoms) and grouped schizoaffective disorder under the category psychotic disorders not elsewhere classified. Essentially this constituted a residual category, although a description was available. DSM-III-R, DSM-IV and the DSM-IV-TR focused on defining better the duration and the relationship between 'schizophrenic' and mood symptoms. The ICD-10 follows a different approach and requires that both mood and psychotic symptoms constitute a prominent part of the clinical picture with a balance between their number, severity and duration. A problem still unsolved is that since all diagnostic approaches require the utilization of long-term data and the past history of the patient, the diagnosis might change over the course of such a lengthy illness, with patients and their families often being unable to provide with reliable descriptions of past episodes (Marneros et al. 1988a). As a result, schizoaffective disorder has a polymorphic course and low levels of diagnostic stability as compared to schizophrenia or mood disorders. Thus, prognosis and outcomes may fluctuate with changes in diagnosis and success of treatment (Astrup et al. 1959; Avery and Winokur 1976; Tsuang and Dempsey 1979; Tsuang et al. 1979; Clark and Mallett 1963; Marneros et al. 1988b, 1991).

Until today, most of studies on schizoaffective disorder focus on outcome, since outcome was the specific validator defined by Kraepelin in order to separate schizophrenia from manic–depressive illness. Earlier studies suggested a more favourable outcome for schizoaffective disorder in comparison to schizophrenia (Coryell et al. 1984; Holmboe and Astrup 1957; Clayton 1982; Cutting et al. 1978; Post 1971; Clark and Mallett 1963; Angst et al. 1980; Grossman et al. 1984; Brockington et al. 1980, 1982; Tsuang et al. 1977, 1979; Pope et al. 1980; Tsuang and Dempsey 1979; Armbruster et al. 1983; Koehler 1983) and in fact they were suggesting that the outcome lays on a continuum with nonpsychotic mood disorders at the one end and psychotic disorders with noncongruent psychotic features at the opposite one (Coryell and Tsuang 1982). Although the course and prognosis of schizoaffective disorder may vary, it is solidly established that the outcome is generally poorer than for patients with mood disorder but somewhat better than for patients with schizophrenia (Marneros et al. 1988b).

However, it has been shown that during inter-episode intervals, schizoaffective patients often manifest residual mood symptoms and mood liability (Astrup et al. 1959). They may also manifest neurocognitive impairment and deficits in social and occupational functioning. This impairment is greater than that of bipolar patients. Recent studies suggested that the neuropsychological deficit observed in schizoaffective patients is quantitatively but not qualitatively different from those with schizophrenia (Reichenberg et al. 2009) which is partially in accord with the above. Schizoaffective patients perform poorer in a global way probably because current psychotic symptoms or history of psychosis is correlated to more severe neurocognitive impairment no matter the specific diagnosis (Simonsen et al. 2011; Szoke et al. 2008; Torrent et al. 2007). Euthymic and stabilized schizoaffective patients are reported to perform worse than BD patients in attention, concentration, declarative memory, executive function and perceptuomotor function (Studentkowski et al. 2010; Torrent et al. 2007).

Also a progress in the understanding of the clinical picture has been done recently. The age of onset of schizoaffective disorder is reported to be in the mid-1920s and is lower than that of mood disorder but higher than that of schizophrenia (Angst 1980; Angst et al. 1980; Joyce 1984; Himmelhoch et al. 1981; Ballenger et al. 1982; Carlson and Strober 1978; Tsuang et al. 1976, 1977; Coryell et al. 1984; Angst 1986a). In terms of the quality of mood episodes, it has been documented that mixed mood episodes are not uncommon (Marneros et al. 2004). A seasonal pattern is less common in comparison to mood disorders. The average length of episodes is shorter than that of pure mood episodes and around 4–4.5 months. It has been reported that the length of circles decreases with increasing number of cycles and this decrease seems to correlate with age at onset (Angst 1986b; Marneros et al. 1988b). It is interesting to note that it is widely believed that the male-to-female ratio seems to depend on the subtype, with the depressive subtype having similar ratio to unipolar depression and the bipolar type similar to bipolar disorder. This has not been adequately confirmed however. Genetic studies have shown that relatives of probands with schizoaffective disorder have higher rates of mood disorder than relatives of probands with schizophrenia and higher rates of schizophrenia

than relatives of probands with mood disorder (Baron et al. 1982; Scharfetter and Nusperli 1980) and that schizophrenia, schizoaffective disorder and bipolar disorder might share common disrupted genes (Jabs et al. 2002; Barnett and Smoller 2009; Craddock et al. 2009; Hamshere et al. 2011), although research in this field is problematic among other reasons because it is not unusual for schizoaffective patients to be included along with schizophrenics in many genetic studies.

Taken all the above together, it seems that the question whether schizoaffective disorder is similar to schizophrenia or to mood disorders still remains unanswered. It seems reasonable to assume that since both schizophrenia and mood disorders develop out of multiple causality factors and also share some of them, schizoaffective disorder does not merely constitute the admixture of their clinical pictures but maybe also of their causalities. Thus, the probable answer is that schizoaffective disorder is a highly heterogenous disorder which bridges the two major groups of mental disorders.

References

Angst J (1980) Course of unipolar depressive, bipolar manic-depressive, and schizoaffective disorders. Results of a prospective longitudinal study (author's transl). Fortschr Neurol Psychiatr Grenzgeb 48(1):3–30. doi:10.1055/s-2007-1002365

Angst J (1986a) The course of affective disorders. Psychopathology 19(Suppl 2):47–52

Angst J (1986b) The course of schizoaffective disorders. In: Marneros A, Tsuang MT (eds) Schizoaffective psychoses. Springer, Berlin, pp 18–30

Angst J (2002) Historical aspects of the dichotomy between manic-depressive disorders and schizophrenia. Schizophr Res 57(1):5–13. doi:S0920996402003286 [pii]

Angst J, Felder W, Lohmeyer B (1979) Schizoaffective disorders. Results of a genetic investigation, I. J Affect Disord 1(2):139–153. doi:0165-0327(79)90033-8 [pii]

Angst J, Felder W, Lohmeyer B (1980) Course of schizoaffective psychoses: results of a followup study. Schizophr Bull 6(4):579–585

Armbruster B, Gross G, Huber G (1983) Long-term prognosis and course of schizo-affective, schizophreniform, and cycloid psychoses. Psychiatr Clin (Basel) 16(2–4):156–168

Astrup C, Noreik K (1966) Functional psychoses: diagnostic and prognostic models. Charles C Thomas, Springfield

Astrup C, Fossum A, Holmboe R (1959) A follow-up of 270 patients with acute affective psychoses. Acta Psychiatr Scand Suppl 34(135):1–65

Averill PM, Reas DL, Shack A, Shah NN, Cowan K, Krajewski K, Kopecky C, Guynn RW (2004) Is schizoaffective disorder a stable diagnostic category: a retrospective examination. Psychiatr Q 75(3):215–227

Avery D, Winokur G (1976) Mortality in depressed patients treated with electroconvulsive therapy and antidepressants. Arch Gen Psychiatry 33(9):1029–1037

Ballenger JC, Reus VI, Post RM (1982) The "atypical" clinical picture of adolescent mania. Am J Psychiatry 139(5):602–606

Barnett JH, Smoller JW (2009) The genetics of bipolar disorder. Neuroscience 164(1):331–343. doi:10.1016/j.neuroscience.2009.03.080, S0306-4522(09)00576-4 [pii]

Baron M, Gruen R, Asnis L, Kane J (1982) Schizoaffective illness, schizophrenia and affective disorders: morbidity risk and genetic transmission. Acta Psychiatr Scand 65(4):253–262

Berner P, Lenz G (1986) Definitions of schizoaffective psychosis: mutual concordance and relationship to schizophrenia and affective disorder. In: Marneros A, Tsuang MT (eds) Schizoaffective psychoses. Springer, Berlin, pp 18–30

Berrios GE, Beer D (1994) The notion of a unitary psychosis: a conceptual history. Hist Psychiatry 5(17 Pt 1):13–36
Brockington IF, Kendell RE, Wainwright S (1980) Depressed patients with schizophrenic or paranoid symptoms. Psychol Med 10(4):665–675
Brockington IF, Helzer JE, Hillier VF, Francis AF (1982) Definitions of depression: concordance and prediction of outcome. Am J Psychiatry 139(8):1022–1027
Carlson GA, Strober M (1978) Affective disorder in adolescence: issues in misdiagnosis. J Clin Psychiatry 39(1):59–66
Cheniaux E, Landeira-Fernandez J, Lessa Telles L, Lessa JL, Dias A, Duncan T, Versiani M (2008) Does schizoaffective disorder really exist? A systematic review of the studies that compared schizoaffective disorder with schizophrenia or mood disorders. J Affect Disord 106(3):209–217. doi:10.1016/j.jad.2007.07.009, S0165-0327(07)00262-5 [pii]
Clark JA, Mallett BL (1963) A follow up study of schizophrenia and depression in young adults. Br J Psychiatry 109:491–499
Clayton PJ (1982) Schizoaffective disorders. J Nerv Ment Dis 170(11):646–650
Coryell W, Tsuang MT (1982) Primary unipolar depression and the prognostic importance of delusions. Arch Gen Psychiatry 39(10):1181–1184
Coryell W, Lavori P, Endicott J, Keller M, VanEerdewegh M (1984) Outcome in schizoaffective, psychotic, and nonpsychotic depression. Course during a six- to 24-month follow-up. Arch Gen Psychiatry 41(8):787–791
Craddock N, O'Donovan MC, Owen MJ (2009) Psychosis genetics: modeling the relationship between schizophrenia, bipolar disorder, and mixed (or "schizoaffective") psychoses. Schizophr Bull 35(3):482–490. doi:10.1093/schbul/sbp020, sbp020 [pii]
Croughan JL, Robins E (1974) The group of schizoaffective and related psychoses–critique, record, follow-up and family studies. II Record studies. Arch Gen Psychiatry 31(5):632–637
Cutting JC, Clare AW, Mann AH (1978) Cycloid psychosis: an investigation of the diagnostic concept. Psychol Med 8(4):637–648
Endicott J, Forman JB, Spitzer RL (1978) Research approaches to diagnostic classification in schizophrenia. Birth Defects Orig Artic Ser 14(5):41–57
Gift TE, Strauss JS, Kokes RF, Harder DW, Ritzler BA (1980) Schizophrenia: affect and outcome. Am J Psychiatry 137(5):580–585
Grossman LS, Harrow M, Fudala JL, Meltzer HY (1984) The longitudinal course of schizoaffective disorders. A prospective follow-up study. J Nerv Ment Dis 172(3):140–149
Hamshere ML, O'Donovan MC, Jones IR, Jones L, Kirov G, Green EK, Moskvina V, Grozeva D, Bass N, McQuillin A, Gurling H, St Clair D, Young AH, Ferrier IN, Farmer A, McGuffin P, Sklar P, Purcell S, Holmans PA, Owen MJ, Craddock N (2011) Polygenic dissection of the bipolar phenotype. Br J Psychiatry 198(4):284–288. doi:10.1192/bjp.bp.110.087866, 198/4/284 [pii]
Himmelhoch JM, Fuchs CZ, May SJ, Symons BJ, Neil JF (1981) When a schizoaffective diagnosis has meaning. J Nerv Ment Dis 169(5):277–282
Holmboe R, Astrup C (1957) A follow-up study of 255 patients with acute schizophrenia and schizophreniform psychoses. Acta Psychiatr Neurol Scand Suppl 115:9–61
Holmboe R, Noreik K, Astrup C (1968) Follow-up of functional psychoses at two Norwegian mental hospitals. Acta Psychiatr Scand 44(3):298–310
Jabs BE, Pfuhlmann B, Bartsch AJ, Cetkovich-Bakmas MG, Stober G (2002) Cycloid psychoses – from clinical concepts to biological foundations. J Neural Transm 109(5–6):907–919. doi:10.1007/s007020200074
Jaspers K (1973) Allgemeine psychopathologie, 9th edn. Springer, Berlin
Joyce PR (1984) Age of onset in bipolar affective disorder and misdiagnosis as schizophrenia. Psychol Med 14(1):145–149
Kant O (1940) Types and analyses of the clinical pictures of recovered schizophrenics. Psychiat Q 14:676–700
Kasanin J (1933) The acute schizoaffective psychoses. Am J Psychiatry 13:97–126
Kasanin J (1994) The acute schizoaffective psychoses. 1933. Am J Psychiatry 151(6 Suppl): 144–154

Kendell RE (1986) The relationship of schizoaffective illnesses to schizophrenic and affective disorders. In: Marneros A, Tsuang MT (eds) Schizoaffective psychoses. Springer, Berlin, pp 18–30
Kendell RE, Gourlay J (1970) The clinical distinction between the affective psychoses and schizophrenia. Br J Psychiatry 117(538):261–266
Koehler K (1983) Prognostic prediction in RDC schizo-affective disorder on the basis of first-rank symptoms weighted in terms of outcome. Psychiatr Clin (Basel) 16(2–4):186–197
Lake CR, Hurwitz N (2006) Schizoaffective disorders are psychotic mood disorders; there are no schizoaffective disorders. Psychiatry Res 143(2–3):255–287. doi:10.1016/j.psychres.2005.08.012, S0165-1781(05)00264-7 [pii]
Langfeldt G (1937) The prognosis of schizophrenia and the factors influencing the course of the disease. Acta Psychiatr Neurol Scand Suppl 13:1–128
Laursen TM, Labouriau R, Licht RW, Bertelsen A, Munk-Olsen T, Mortensen PB (2005) Family history of psychiatric illness as a risk factor for schizoaffective disorder: a Danish register-based cohort study. Arch Gen Psychiatry 62(8):841–848. doi:10.1001/archpsyc.62.8.841, 62/8/841 [pii]
Leonhard K (1957a) Cycloid psychoses, often erroneously considered as schizophrenia. Psychiatr Neurol Med Psychol (Leipz) 9(12):359–365
Leonhard K (1957b) Pathogenesis of manic-depressive disease. Nervenarzt 28(6):271–272
Malhi GS, Green M, Fagiolini A, Peselow ED, Kumari V (2008) Schizoaffective disorder: diagnostic issues and future recommendations. Bipolar Disord 10(1 Pt 2):215–230. doi:10.1111/j.1399-5618.2007.00564.x, BDI564 [pii]
Marneros A (1983) Kurt Schneider's 'Zwischen-Falle', 'mid-cases' or 'cases in between'. Psychiatr Clin (Basel) 16(2–4):87–102
Marneros A (2003) The schizoaffective phenomenon: the state of the art. Acta Psychiatr Scand Suppl 418:29–33. doi:177 [pii]
Marneros A, Deister A, Rohde A (1988a) Syndrome shift in the long-term course of schizoaffective disorders. Eur Arch Psychiatry Neurol Sci 238(2):97–104
Marneros A, Rohde A, Deister A, Fimmers R, Junemann H (1988b) Long-term course of schizoaffective disorders. Part III: onset, type of episodes and syndrome shift, precipitating factors, suicidality, seasonality, inactivity of illness, and outcome. Eur Arch Psychiatry Neurol Sci 237(5):283–290
Marneros A, Deister A, Rohde A (1991) Stability of diagnoses in affective, schizoaffective and schizophrenic disorders. Cross-sectional versus longitudinal diagnosis. Eur Arch Psychiatry Clin Neurosci 241(3):187–192
Marneros A, Rottig S, Wenzel A, Bloink R, Brieger P (2004) Affective and schizoaffective mixed states. Eur Arch Psychiatry Clin Neurosci 254(2):76–81. doi:10.1007/s00406-004-0462-9
Mendlewicz J, Linkowski P, Wilmotte J (1980) Relationship between schizoaffective illness and affective disorders or schizophrenia. Morbidity risk and genetic transmission. J Affect Disord 2(4):289–302
Moller HJ (2008) Systematic of psychiatric disorders between categorical and dimensional approaches: Kraepelin's dichotomy and beyond. Eur Arch Psychiatry Clin Neurosci 258(Suppl 2):48–73. doi:10.1007/s00406-008-2004-3
Moller HJ, Werner-Eilert K, Wuschner-Stockheim M, von Zerssen D (1982) Relevant predictors of the 5 year outcome of patients with schizophrenic or similar paranoid psychoses (author's transl). Arch Psychiatr Nervenkr 231(4):305–322
Noreik K, Astrup C, Dalgard OS, Holmboe R (1967) A prolonged follow-up of acute schizophrenic and schizophreniform psychoses. Acta Psychiatr Scand 43(4):432–443
Perris C (1966) A study of bipolar (manic-depressive) and unipolar recurrent depressive psychoses. Introduction. Acta Psychiatr Scand Suppl 194:9–14
Pope HG Jr, Lipinski JF Jr (1978) Diagnosis in schizophrenia and manic-depressive illness: a reassessment of the specificity of 'schizophrenic' symptoms in the light of current research. Arch Gen Psychiatry 35(7):811–828
Pope HG Jr, Lipinski JF, Cohen BM, Axelrod DT (1980) "Schizoaffective disorder": an invalid diagnosis? A comparison of schizoaffective disorder, schizophrenia, and affective disorder. Am J Psychiatry 137(8):921–927

Post F (1971) Schizo-affective symptomatology in late life. Br J Psychiatry 118(545):437–445
Reichenberg A, Harvey PD, Bowie CR, Mojtabai R, Rabinowitz J, Heaton RK, Bromet E (2009) Neuropsychological function and dysfunction in schizophrenia and psychotic affective disorders. Schizophr Bull 35(5):1022–1029. doi:10.1093/schbul/sbn044, sbn044 [pii]
Scharfetter C, Nusperli M (1980) The group of schizophrenias, schizoaffective psychoses, and affective disorders. Schizophr Bull 6(4):586–591
Schneider K (1973) Klinische psychopathologie, 10th edn. Thieme, Stuttgart
Simonsen C, Sundet K, Vaskinn A, Birkenaes AB, Engh JA, Faerden A, Jonsdottir H, Ringen PA, Opjordsmoen S, Melle I, Friis S, Andreassen OA (2011) Neurocognitive dysfunction in bipolar and schizophrenia spectrum disorders depends on history of psychosis rather than diagnostic group. Schizophr Bull 37(1):73–83. doi:10.1093/schbul/sbp034 sbp034
Spitzer RL, Andreasen NC, Endicott J (1978a) Schizophrenia and other psychotic disorders in DSM-III. Schizophr Bull 4(4):489–510
Spitzer RL, Endicott J, Robins E (1978b) Research diagnostic criteria: rationale and reliability. Arch Gen Psychiatry 35(6):773–782
Studentkowski G, Scheele D, Calabrese P, Balkau F, Hoffler J, Aubel T, Edel MA, Juckel G, Assion HJ (2010) Cognitive impairment in patients with a schizoaffective disorder: a comparison with bipolar patients in euthymia. Eur J Med Res 15(2):70–78
Szoke A, Meary A, Trandafir A, Bellivier F, Roy I, Schurhoff F, Leboyer M (2008) Executive deficits in psychotic and bipolar disorders – implications for our understanding of schizoaffective disorder. Eur Psychiatry 23(1):20–25. doi:10.1016/j.eurpsy.2007.10.006, S0924-9338(07)01422-8 [pii]
Torrent C, Martinez-Aran A, Amann B, Daban C, Tabares-Seisdedos R, Gonzalez-Pinto A, Reinares M, Benabarre A, Salamero M, McKenna P, Vieta E (2007) Cognitive impairment in schizoaffective disorder: a comparison with non-psychotic bipolar and healthy subjects. Acta Psychiatr Scand 116(6):453–460. doi:10.1111/j.1600-0447.2007.01072.x, ACP1072 [pii]
Tsuang MT, Dempsey GM (1979) Long-term outcome of major psychoses. II. Schizoaffective disorder compared with schizophrenia, affective disorders, and a surgical control group. Arch Gen Psychiatry 36(12):1302–1304
Tsuang MT, Dempsey M, Rauscher F (1976) A study of "atypical schizophrenia". Comparison with schizophrenia and affective disorder by sex, age of admission, precipitant, outcome, and family history. Arch Gen Psychiatry 33(10):11157–11160
Tsuang MT, Dempsey GM, Dvoredsky A, Struss A (1977) A family history study of schizoaffective disorder. Biol Psychiatry 12(3):331–338
Tsuang MT, Woolson RF, Fleming JA (1979) Long-term outcome of major psychoses. I Schizophrenia and affective disorders compared with psychiatrically symptom-free surgical conditions. Arch Gen Psychiatry 36(12):1295–1301
Vaillant GE (1962) The prediction of recovery in schizophrenia. J Nerv Ment Dis 135:534–543
Welner A, Croughan J, Fishman R, Robins E (1977a) The group of schizoaffective and related psychoses: a follow-up study. Compr Psychiatry 18(5):413–422. doi:0010-440X(77)90039-6 [pii]
Welner A, Welner Z, Leonard MA (1977b) Bipolar manic-depressive disorder: a reassessment of course and outcome. Compr Psychiatry 18(4):327–332. doi:0010-440X(77)90003-7 [pii]
Welner A, Welner Z, Fishman R (1979) The group of schizoaffective and related psychoses: IV. A family study. Compr Psychiatry 20(1):21–26. doi:0010-440X(79)90056-7 [pii]
Winokur G, Scharfetter C, Angst J (1985) A family study of psychotic symptomatology in schizophrenia, schizoaffective disorder, unipolar depression, and bipolar disorder. Eur Arch Psychiatry Neurol Sci 234(5):295–298