Elevated striatal dopamine function in immigrants and their children: a risk mechanism for psychosis
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Importance: Migration is a major risk factor for schizophrenia but the neurochemical processes involved are unknown. One candidate mechanism is through the elevations in striatal dopamine synthesis and release that occur in schizophrenia and during the clinical high-risk (CHR) state that precedes psychosis.

Objective: To determine whether striatal dopamine function is elevated in immigrants compared to non-immigrants and the relationship with psychosis.

Design: Two complementary case-control studies of dopamine function in vivo (stress-induced dopamine release and dopamine synthesis capacity) in immigrants compared to non-immigrants. Two complementary studies carried out in Academic research centres in Canada and the UK.

Participants: The Canada dopamine release study included 25 immigrant and 31 non-migrant Canadians. These groups included 23 CHR subjects, 9 antipsychotic naïve patients with schizophrenia and 24 healthy volunteers. The UK dopamine synthesis study included 32 immigrants and 44 non-immigrant British. These groups included 50 CHR subjects and 26 healthy volunteers.

Main outcome measures: The main effects of immigration status and clinical group on stress-induced dopamine release and on dopamine synthesis capacity in the striatum.

Results: Both striatal dopamine release and dopamine synthesis capacity were significantly elevated in immigrants compared to non-immigrants, independent of clinical status.

Conclusions and relevance: These data provide the first evidence that the effect of migration on the risk of developing psychosis may be mediated by an elevation in brain dopamine function.

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