surgery to prevent psychological problems.[7] It also signifies the importance of the society in assigning the social roles appropriate to the individual's gender identity rather than the sex determined by the external genitalia.[8] The significant amount of confusion and dysphoria faced by these individuals can be appropriately addressed by timely identification, referral, and expert psychological management.[9] This also results in favorable post-surgical outcomes in terms of patient satisfaction and improved quality of life.[10]

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Pleural Effusion In A Patient With Injection Heroin Use: An Unusual Presentation With An Unusual Pathogen

Sir,

According to a recently conducted nation-wide survey, in India, about 8.5 lakh people use injection drugs. Punjab, with nearly 88,000 people who inject drugs (PWID), has the second-largest drug-using population.[1] Injection drug use (IDU) can cause a wide array of infective and non-infective pulmonary complications: pneumonia, cardiogenic edema, acute lung injury, pulmonary hemorrhage, and aspiration pneumonia.[2,3] We report a rare pulmonary complication of injection drug use: septic emboli caused by an unusual agent, *Burkholderia cepacia*, which resulted in pleural effusion.

Case Report

A 22-year-old unmarried, unemployed male, resident of urban Chandigarh, was admitted in the surgical emergency in mid-December 2019 with complaints of acute onset of chest pain (which worsened during inspiration), breathlessness, and intermittent pain in the right lower abdomen for the last one week and fever for two days. History revealed regular use of heroin for the last five years and use was predominantly via injections for the last two years; if unable to procure heroin, he would chase *Smack* once or twice a month. He would share injection equipment and use tap water as a reconstituent. The place of injection would largely be empty and dirty parking lots and public toilets. Urine drug screen revealed the presence of morphine and cannabis. Initial assessment revealed a pulse rate of 94/min, blood pressure 120/76 mmHg, and an axillary temperature of 101° F. The chest auscultation was unremarkable. His past medical record revealed hepatitis C seropositivity.

Initial blood investigations revealed the following: hemoglobin 12 g/dl, total leucocyte count 7300/mm^3 (differential count: neutrophil 67%, lymphocyte 32%, monocyte 7%, and eosinophil 4%), platelet 2,73,000/mm^3, bilirubin (total: 0.7 mg/dl; conjugated: 0.2 mg/dl), and total protein 7.1 gm/dl. He was seronegative for both hepatitis B and human immunodeficiency virus (HIV1&2). Electrocardiogram was unremarkable.

A chest radiogram revealed right-sided pleural effusion. Ultrasonogram (USG) whole abdomen, done as a part of acute abdomen work-up on the same day, showed mild splenomegaly, right-sided loculated pleural effusion (2.8 cm wide, with thick septations), and appendicolith.

He was diagnosed with pleural effusion and acute appendicitis. He was treated with empirical antibiotic therapy (ciprofloxacin and metronidazole) and intravenous fluids. After one day, 10 F pigtail catheter was placed in the right pleural space under USG guidance. Pleural fluid investigations revealed the following: sugar 17 mg/dl, protein 5.7 mg/dl, adenosine deaminase 53 IU/L, and cell count 680/cmm (polymorphonuclear cells: 60%, lymphocytes: 40%). The report was indicative of exudative effusion, possibly of infective origin. Real-time polymerase chain reaction for tuberculosis was negative. Culture and sensitivity report of the pleural fluid showed *Burkholderia cepacia* with intermediate sensitivity to cefoperazone-sulbactam and resistance to ceftazidime, ciprofloxacin, levofloxacin, and meropenem. But the antibiotic regime was not changed as the patient showed clinical improvement.

After five days, the pigtail catheter was removed, and the patient was discharged on ciprofloxacin and metronidazole (to be continued for another five days). There was a temporary resolution of fever and breathlessness. History obtained in the emergency ward revealed past treatment in a private de-addiction service with buprenorphine assisted therapy, to which he was poorly adherent. He was admitted subsequently to the addiction psychiatry ward for buprenorphine reinduction. Then the chest pain reappeared. A chest radiogram was repeated, which revealed minimal right-sided pleural effusion. After consultation with pulmonary medicine, the patient was kept under observations, with a fortnightly repeat of chest radiogram. The pain was controlled by buprenorphine. However, the level of effusion remained unchanged, and an intermittent mild right-sided chest pain, radiating to back, continued. But he did not experience breathlessness or fever. After 25 days, he was discharged on 14 mg buprenorphine and was referred to pulmonary medicine OPD. On serial monitoring with chest radiogram, the effusion gradually reduced and finally resolved in another month.

Discussion

PWID are around three times more susceptible to bacterial empyema. These complications might happen due to contaminated substance (including the fillers), paraphernalia or reconstitutes (often unsterile tap water), unsafe injection-practice, unhygienic place of injecting, and higher cutaneous bacterial colonization in PWID.[4] The most common identified agents for bacterial empyema are streptococcus and staphylococcus.[5] To the best of our knowledge, this is the first report of *Burkholderia cepacia*-related pleural effusion in a patient with IDU.

Burkholderia cepacia complex (BCC) is a lactose nonfermenting gram-negative bacillus with low virulence. BCC organisms are commonly found in plant roots, rhizosphere, soil, and tap water. It is an important pathogen in hospital-acquired infections and opportunistic infections in immunocompromised patients (e.g., cystic fibrosis and chronic granulomatous disease).[6] Immunosuppression is common among chronic opioid users.[7] In this case, the source of infection might be contaminated heroin, paraphernalia (environmental contamination or sharing of paraphernalia from infected users), tap water, and/or unhygienic injecting place. *Burkholderia cepacia* endocarditis is reported among PWID.[8] Despite low virulence, the extreme antimicrobial resistance makes the agent difficult to treat.

PWID should be actively monitored for unusual opportunistic infections. Moreover, this report highlights the importance of disseminating "safe injection practices" as a harm reduction measure.

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Book Review: *Hidden Valley Road: Inside the Mind of an American Family.*

Robert Kolker. Quercus Publications, April 2020. 362 pages, Price: ₹362/- (kindle edition), ISBN978-0-385-54376-7.

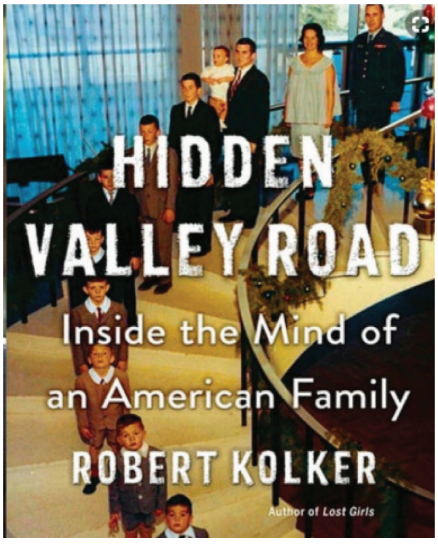
Robert Kolker, a journalist and critically acclaimed author, has come up with this intriguing, real-life family narrative of the Galvin family and their contributions to research studies, which shall undoubtedly evoke the interest of mental health professionals.

The Galvin family had 12 children, of which six boys eventually develop schizophrenia in their late teens. The book cover shows the Galvin family in their happier times, and the book title refers to their Hidden Valley Road house in Colorado, which stood a witness to their lives.

The book is based on extensive interviews with family members (including 90-year-old matriarch, Mimi), their relatives, personal diaries, and records retrieved from multiple hospitalizations at various facilities. The author also attempted to gain insight into the research contributions of the family by interviewing two prominent researchers who engaged with the family over the years. These included Dr Lynn DeLisi, the geneticist, and Dr Robert Freedman, well-known for his sensory gating theory in schizophrenia.

Recently, Dr DeLisi re-analyzed her original genetic materials gathered from nine multiplex families (i.e., families with two or more biologically related members having the same complex genetic disorder) in the 1980s, using newer techniques after the advent of genome sequencing, which led to the discovery of the SHANK-2 mutation on chromosome 11, a finding published in her 2016 paper in "Molecular Psychiatry" journal. This mutation was detected in all samples collected from Galvin boys and their mother, but not their father. The author has discussed the significance of these findings in a lucid, simplistic manner, including their significance and limitations in a broader context.

The book also forms a commentary on the parallel scientific developments in the field of psychiatry from the past century till the present. The author has retained a narrative style and refrains from taking



judgmental stances in favor or against a member of the family, leaving it up to the readers to make their conclusions.

The book's prologue gives a window to the felt experiences of the youngest sibling growing up in a family with six elder brothers having schizophrenia, who felt that "the foundation of a family is permanently tilted in the direction of sick family member." The book is broadly divided into 3 parts, with a total of 45 brief chapters.

The first part of the book begins with the marriage of Don Galvin, a serving officer, with Mimi, a perfectionist housewife with finer interests in life. The couple went on to have a dozen children between 1945 and 1965, against everyone's advice. As her elder sons (Donald, Jim) begin to display symptoms of psychosis, Mimi recalls that her disciplinarian, "controlling" parenting style was blamed in an era of "schizophrenogenic mothers" hypothesis. Heralded by a mild prodrome of social withdrawal in some, the illness is preceded by heavy drug abuse, sexual abuse, and neglect in childhood of most of these boys.

Some children suffered sexual abuse from an elder sibling (Jim) and a local priest whom Mimi had befriended. The first part of the book also describes the sudden murder-suicide by their son (Brian), whose antipsychotic prescriptions were found after he murdered his girlfriend and died of suicide. The patriarch of the family, Don, suffered an incapacitating stroke, which made him dependent on his wife who was already struggling with other ill sons.

The second part of the book begins with a shift of gears to the life and career path of Dr Lynn DeLisi and her emphasis on a need to return to multiplex families for research. Dr Freedman looks back to reminisce his research works in which the Galvins had participated. This part also delves into how mental illness affected the lives of each member of the family, whether sick or well. There was a suboptimal response to multiple psychotropic drugs, with two siblings dying from a possible neuroleptic malignant syndrome.

The third part of the book looks from the perspective of the younger sisters who try to come to terms with their family's past and assume a more supportive role after their mother's death in 2017. Uncertainty over the genetic risk in the next generation is also an