Gilbert syndrome with scleroderma- A rare case report

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Abstract
Gilbert syndrome and scleroderma occur rarely. We encountered a case where both these syndromes occurred simultaneously. Considering the rarity of the occurrence, we present here this case report.

Keywords: Autoimmune disease, Systemic sclerosis, Hyperbilirubinemia.

Introduction
Gilbert syndrome is the most common cause of familial unconjugated hyperbilirubinemia.[1] The condition is caused by relative deficiency of glucuronyl transferase and poor uptake of unconjugated bilirubin by hepatocytes. Scleroderma is an autoimmune disease affecting mainly the skin but some internal organs in few individuals. We present here a case of concurrent occurrence of gilbert syndrome and scleroderma that has never been reported in the literature.

Case Description
A 45 year old female who was a known case of type 2 diabetes mellitus, scleroderma and interstitial lung disease presented with the complaint of menorrhagia. Following physical examination and imaging studies, she was diagnosed to have multiple uterine fibroids both in the anterior and posterior uterine wall with the largest measuring 33 x 27 and 28 x 38 cm in size respectively. Laboratory examination revealed the presence of mild anaemia, while all other biochemical and haematological investigations were within normal limits. A unit of whole blood was transfused after blood grouping and cross-matching were done. On the next day following blood transfusion, total bilirubin was 7.2 mmol/l with direct bilirubin being 0.8 mmol/l. Peripheral smear, reticulocyte count, lactate dehydrogenase, direct and indirect Coomb's test and, liver enzymes were normal. On day 4 following blood transfusion, total bilirubin reduced to 1.5mmol/l with direct bilirubin to 0.5 mmol/l. The patient had an episode of fever for which injection paracetamol 1 gm was administered intravenously. Hysterectomy was planned and so patient was kept nil orally. On day 5, the total bilirubin was 6.2 and the direct bilirubin was 0.8 mmol/l. Liver enzymes were within normal range. The serial sample of blood is depicted in Fig 1. Surgery was postponed due to hyperbilirubinemia and on day 7 following blood transfusion, total bilirubin reduced to 1.0 mmol/l and the direct bilirubin to 0.4 mmol/l. Antinuclear antibodies (ANA) was found to be speckled pattern positive, anti-SCL 70 was negative and oesophagoduodenoscopy revealed Grade I gastro-esophageal reflux disease. Increased levels of both total and unconjugated bilirubin following blood transfusion as well as following the administration of paracetamol confirmed the diagnosis of Gilbert's syndrome.

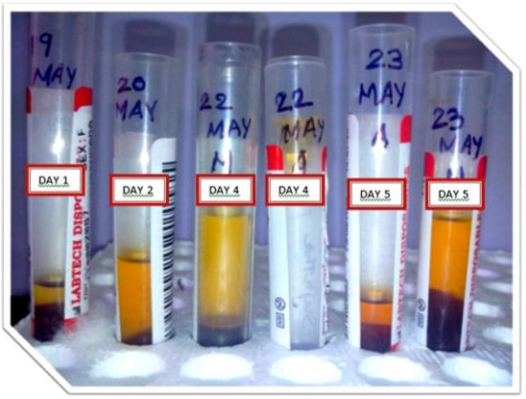

Fig. 1: Serial samples of blood
Day 1 = Blood transfusion was given; Day2 = Total bilirubin - 7.2 mmol/l and direct bilirubin-0.8 mmol/l; Day 4 = Total bilirubin -1.5 mmol/l and direct bilirubin-0.5 mmol/l; Day 5 (morning) = Total bilirubin - 6.2 mmol/l and direct bilirubin-0.8 mmol/l; Day 5 (afternoon) = Total bilirubin -6.0 mmol/l and direct bilirubin - 0.8 mmol/l

Discussion
We have presented here a middle-aged woman who is a known case of scleroderma and diagnosed to have Gilbert's syndrome.

Gilbert's syndrome occurs due to defect in the phase II conjugating enzyme, UDP-glucuronyl transferase (UDPGT) at a prevalence of around 5% worldwide with a predilection for males. Dehydration, infection, stress, fasting, lack of proper sleep, undergoing surgery, certain drugs and menstruation were found to trigger hyperbilirubinemia in these patients. Diagnosis is established by unconjugated hyperbilirubinemia with the liver enzymes being normal. Alternatively, probe drugs such as phenobarbital (relieves jaundice) and intravenous

nicotinic acid (aggravates jaundice) can be used to diagnose Gilbert syndrome.[2] Patients with Gilbert's syndrome do not require any active treatment. The bilirubinemia will be asymptomatic and will eventually reduce with time. Rather these individuals seem to be protected from various cardiovascular diseases and correspondingly death. Cure et al has shown that patients with Gilbert syndrome have less P-wave dispersion, QT dispersion and heart rate conferring them a decreased risk of cardiac arrhythmias and coronary artery disease.[3] Similarly, a large population based study had shown that mortality rates are nearly halved in patients with Gilbert syndrome than the general population.[4] This has been attributed to the anti-oxidant nature of accumulating bilirubin in these patients. Also, studies have shown an improvement in the lipid parameters such as LDL-cholesterol, triglycerides and total cholesterol with hyperbilirubinemia.[5]

Scleroderma is an autoimmune disorder presenting as a chronic multisystem disease due to a widespread obliterative vasculopathy of small arteries that is associated with varying degrees of tissue fibrosis.[6] Two forms of the disease are known – limited and diffuse cutaneous scleroderma. In the former, fibrosis is limited to hands, arms and face while the latter is associated with more area of fibrosis along with the internal organs. Pulmonary hypertension, pulmonary fibrosis and renal crisis are the most frequent causes of mortality.[7] Scleroderma can occur as a standalone entity or can occur along with systemic lupus erythematosus, rheumatoid arthritis, polymyositis or Sjogren's syndrome, in which case it is referred to as overlap syndrome.[8] There is no documentation in literature about the co-existence of Gilbert's syndrome with scleroderma. To the best of our knowledge, this is the first case report.

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Competing Interests

The author(s) declare that they have no competing interests.

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