Introduction
Glucose-6-phosphate dehydrogenase (G6PD) deficiency is a very common X-linked genetic disorder caused by a structural abnormality in the G6PD enzyme. The G6PD enzyme catalyzes the first step in the pentose phosphate pathway, leading to antioxidants that protect red-blood-cells against oxidative damage. G6PD deficiency can cause hemolytic anemia, usually after exposure to certain medications, foods, and infections. Therefore, clinical management of G6PD deficiency is to prevent hemolysis caused by antioxidant stress from certain drugs, and severe infections. To the best of our knowledge, this is the first reported case of dexmedetomidine-based intravenous sedation used in a G6PD deficiency patient.

Patient and Methods
Patient
The patient was a 5-year-old boy (height 115 cm, body weight 22 kg) with G6PD deficiency. He had no previous medical history of hemolytic anemia. He did not have any problems when he took painkillers or cold medicines. The patient’s grandfather, who was of Taiwanese origin, also had G6PD deficiency: however, the grandfather also had never developed a hemolytic reaction. The patient had mild amblyopia and a mild mental retardation. We performed frencotomy under intravenous sedation.

Methods
We used dexmedetomidine-based intravenous sedation. Dexmedetomidine has been reported to have antioxidant activity, to cause less respiratory depression than other sedatives, and to be effective for pediatric sedation. And, we used other sedative drugs before using dexmedetomidine, to avoid a change in circulation at the time of dexmedetomidine loading. His vital signs were stable and maintained a Ramsay Score of 4.

Conclusions
Our case suggests that the selection and use of sedatives with anti-oxidant and inflammatory effects to counter the rise in perioperative oxidative stress will increase safety. Dexmedetomidine was safe and effective for this pediatric patient with G6PD deficiency. We suggest that Dexmedetomidine will be one of the safe drugs that can be used for pediatric patient with G6PD deficiency.

References
Eleyasi AR Rowshan HH. Perioperative management of the glucose-6-phosphate dehydrogenase deficient patient:review of literature. Anesth Prog;2009;56:86-91