

# TRANSFUSION THERAPY AND SICKLE CELL DISEASE

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## Background:

Sickle cell disease is a very common hemoglobinopathy. The main goal of transfusion therapy in sickle cell disease is to prevent thrombotic events, improve tissue oxygenation and treat anaemia complications. However the risk of alloimmunization is well known. Since 2001 our service has been doing a tight surveillance work in sickle cell patients, creating a database of about 15.000 studied blood donors.

## Aims:

We want to share our experience in transfusion of sickle cell patients and highlight the importance to have a computer database with compatible donors in order to reduce alloimmunization in these patients.

## Methods:

We have studied the above described donors for the following blood group systems ABO, Rh, Kell, Duffy, Kidd, MNSs, Lutheran, P (P1) and haemoglobin S. For each transfusion demand for these patients we research in our computer data base the more likely compatible donor.

From January 2007 to January 2011 we studied 64 patients. To transfuse these patients we followed the protocol described above. We transfused these patients with red cells of compatible donors pre investigated. We perform pre transfusion tests in all patients.

## Results:

Have been studied 64 patients who needed red cells transfusion, 30 were females and 34 were males. The range of ages was from 1 to 46 years old. 55 patients were black (85.9%). We have been able to transfuse these patients with red cells of 135 compatible donors from database. We performed 439 red cell concentrate (RCC) transfusions (average per patient 6.85). The patient with the biggest supply was transfused with 22 RCC and we didn't find in this case any clinically significant red cell alloantibody. We had 7 positive antibody screenings, 2 were anti-Lea, 2 anti-E and 3 were inconclusive

- ✓ 64 Doentes estudados com idades entre 1 – 46A
- ✓ 55 Raça negra (85,9%)
- ✓ 135 Dadores compatíveis
- ✓ 439 CEs transfundidos
- ✓ Doente com mais CEs transfundidos (22 Unidades) sem detecção de anticorpos significativos
- ✓ Pesquisa de Anticorpos Irregulares positiva em 7 doentes

Anti – Lea	Anti – E	Inconclusivo
2	2	3

## Summary/Conclusions:

In our study all patients with clinically significant alloantibodies were previously transfused in other institution. We didn't find any alloantibody in patients exclusively transfused in our department. Our experience transfusing sickle cell disease patients reveals that RCC compatible to antigens of the groups mentioned above greatly reduce alloimmunization. Hence the importance of the existence in urgency blood department of an extended phenotype donors file.