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# Anaphylactic Reaction After Initial Exposure to Basiliximab

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## Case Report

### ABSTRACT

Balisiliximab is a widely used monoclonal antibody in renal transplant for immunosuppression induction. Its introduction has decreased the incidence in acute rejection during the first year after renal transplantation; however it does not show any long-term benefits.

**Case presentation:** A 38 year old patient who suffers from a severe anaphylactic reaction after initial exposure to Basiliximab before kidney transplantation which led to his death.

**Keywords:** Kidney transplantation, Bronchospasm, Dyspnea, Headache, Lung edema

## INTRODUCTION

The most common adverse events described by medical literature with the use of Basiliximab were gastrointestinal, edema, fever, dyspnea, headache, acne, tremor and insomnia among others. Some anaphylactic reactions reported can include hypotension, dyspnea, tachycardia, bronchospasm, lung edema, itching or hives. In October 2000 Novartis Pharmaceuticals Corporation reported 17 cases of severe hypersensitivity reaction after initial exposure to Basiliximab and subsequent doses. Other several cases of serious adverse reactions have been reported such as respiratory distress, which subsequently put the patients' lives at risk . Some of them had some allergies records such as bronchial asthma and allergies to some medications.

The following is a case of anaphylactic reaction after initial exposure to Basiliximab, which led to the death of the patient.

## CASE REPORT

A 38 year old woman who suffers from terminal chronic kidney failure, unknown cause, on dialysis for 5 years. A history of high blood pressure, dyslipidemia, hyperparathyroidism, mild asthma, severe hyperparathyroidism with PTH>1000. Medication: calcium, vitamin B and folic acid, atenolol, levothyroxine. She has no records of known allergies to medication. Takes part in the kidney transplant operative with cadaveric donor. When admitted, showed 150/70 arterial pressure, chest x-ray, sinuses and surrounding area, ECG and normal lab tests. Normal physical examination. The patient was indicated immunosuppressive induction with Basiliximab 20 mg, methylprednisolone 700 mg sodium mycophenolate 720 mg and tacrolimus 5 mg.

Some minutes after Basiliximab administration the patient has respiratory failure and severe arterial hypotension. Bag-Valve-Mask Ventilation is carried out with difficulty due to the progressive increase of resistance and desaturation, which develops extreme bradycardia and cardiac arrest while performing cardiopulmonary resuscitation. Endotracheal intubation is performed with no ventilation and oxemia improvement. Intra-venous adrenaline and diphenhydramine is administered. After 30 min reanimation, a recovery of heart rate for 5 min is observed. Finally, the patient has a new cardiac arrest with refractory asystole to cardiopulmonary resuscitation.

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## DISCUSSION

Basiliximab is one of the most optimal antibodies widely used in induction Immunosuppressive therapy in Renal Transplantation. It is a recombinant monoclonal antibody (75% human 25% murine) directed against the alpha chain (CD25) of the IL2 receptor which is located on the surface of the activated T-lymphocytes, preventing T-lymphocyte proliferation induced by IL-2. The CD25 receptors complete saturation of the circulating lymphocytes is obtained during 4-6 weeks after Basiliximab 20 mg administration on day 0 and 4 after transplantation [1,2].

KDIGO (Kidney Disease Improving Global Outcomes) clinical practice guidelines on the monitoring, management, and treatment of kidney transplant recipients recommend using anti-CD25 in induction immunosuppression therapy for kidney transplantation as first line treatment [3]. While Basiliximab is associated with a significant reduced incidence of rejection in the first year after transplantation, there is no evidence of long-term beneficial effect [4-7]. Even the graft survival and the patient 6 and 12 months after transplantation does not differ significantly from Basiliximab versus placebo as induction [8-12]. Some meta-analysis of randomized studies recommend the use of Basiliximab as induction therapy, which is more effective than placebo in reducing the acute rejection incidence in kidney transplantation during the first six months after transplantation, although it does not improve graft and patient survival after 12 months transplantation [13-15].

While these monoclonal antibodies anti-CD25 have shown to diminish the incidence of kidney transplant rejection after the first year, some long-term-studies do not show survival benefits in the graft as well as the patient [13-15]. The lack of benefit evidence in the use of Basiliximab on low immunity system risk patients' questions the systematic use of this antibody as induction immunosuppression in kidney transplant. Its usage on low immunity risk patients should be carefully assessed on a case by-case basis. In order to customize its use, clinical or lab indicators may be needed to identify those patients with potential risk to experience adverse reactions to Basiliximab administration.

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