

Submission Copy

The Allergy and Clinical Immunology Service at the Hospital Nacional Edgardo Rebagliati Martins, a recognized World Allergy Organization Center of Excellence in Lima, Peru, highlights its participation in the AAAAI/WAO Joint Congress 2026.

Cristhel Puente, MD, Allergy and Clinical Immunology fellow, presented a clinical case describing severe Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS) with a favorable clinical response following treatment with intravenous immunoglobulin (IVIG).

This case contributes to the growing discussion on therapeutic strategies for severe drug hypersensitivity reactions, particularly in cases with systemic involvement where standard therapies may be insufficient. The report emphasizes the potential role of IVIG as an immunomodulatory treatment option in selected patients with severe DRESS syndrome.

Participation in this international meeting reflects the center's commitment to advancing research, clinical education, and international collaboration in allergy and clinical immunology.



CARBAMAZEPINE-INDUCED SEVERE DRESS WITH MULTIORGAN INVOLVEMENT: SUCCESSFUL TREATMENT WITH IVIG

C. Puente, MD 1; P. Ruiz, MD 2; R. Fernandez, MD 1; J. Calero, MD 1 and A. Alviles, MD Edgardo Rebagliati Martins National Hospital, Jesus Maria, Peru
Hospital Universitario Puerta del Mar, Cadiz, Spain



BACKGROUND

DRUG REACTION WITH EOSINOPHILIA AND SYSTEMIC SYMPTOMS (DRESS) IS A SEVERE DELAYED HYPERSENSITIVITY REACTION CHARACTERIZED BY RASH, HEMATOLOGIC ABNORMALITIES, AND MULTIORGAN INVOLVEMENT. THE LIVER IS THE MOST FREQUENTLY AFFECTED ORGAN AND REPRESENTS THE MAIN CAUSE OF MORTALITY. CARDIAC INVOLVEMENT IS LESS COMMON BUT ASSOCIATED WITH POOR PROGNOSIS.

FIGURE 1: PHYSIOPATHOLOGY OF DRESS



FIGURE 2



FIGURE 3



FIGURE 4




MARKED MUCOCUTANEOUS JAUNDICE, DIFFUSE SKIN INVOLVEMENT, AND SEVERE LABORATORY ABNORMALITIES WERE OBSERVED, INCLUDING EXTREME ELEVATION OF TRANSAMINASES, MIXED HYPERBILIRUBINEMIA, AND SIGNIFICANT COAGULOPATHY, CONSISTENT WITH ACUTE LIVER FAILURE. COMPLETE BLOOD COUNT REVEALED MARKED LEUCOCYTOSIS WITH LEFT SHIFT AND ATYPICAL LYMPHOCYTES, WITHOUT INITIAL EOSINOPHILIA, AS WELL AS THROMBOCYTOPENIA AND MODERATE ANEMIA (VER TABLA 1)

Admission	High Priority	Low Priority	Reference
AST (U/L) (44-102)	5,500	12,000	30-144
ALT (U/L) (34-102)	2,207	12,000	100-150
Total Bilirubin (mg/dL)	17	12	12 < 2.7
Direct Bilirubin (mg/dL)	8.7	0.3	0.2 < 0.2
Leukocytes (/mm ³)	30,230	22,450	11,000
Hemoglobin (g/dL) (12.0-15.0)	0	200	120
Hematocrit (%)	0	6.0	37-47
Platelets (/mm ³)	65,000	40,700	150,000
Hemoglobin (g/dL)	6.6	6.6	12.1-15.1
Urea Nitrogen (mg/dL)	12.65	12.65	7-13
Prothrombin Time (sec)	20.9	17.90-17.27	11-14
INR	2.01	1.1	0.9-1.2
White Blood Cells	32,100	22,450	4,800-10,800
Neutrophils (%)	82	78	57-76
Lymphocytes (%)	12	12	20-40
Monocytes (%)	6	10	2-8
Eosinophils (%)	0	0	1-5
Basophils (%)	0	0	0-2
Platelets (/mm ³)	65,000	40,700	150,000
Hemoglobin (g/dL)	6.6	6.6	12.1-15.1
Urea Nitrogen (mg/dL)	12.65	12.65	7-13
Prothrombin Time (sec)	20.9	17.90-17.27	11-14
INR	2.01	1.1	0.9-1.2
White Blood Cells	32,100	22,450	4,800-10,800
Neutrophils (%)	82	78	57-76
Lymphocytes (%)	12	12	20-40
Monocytes (%)	6	10	2-8
Eosinophils (%)	0	0	1-5
Basophils (%)	0	0	0-2

FIGURE 5



FIGURE 6



TREATMENT STRATEGY

STEP 1 – IMMEDIATE INTERVENTION

- PROMPT DISCONTINUATION OF CARBAMAZEPINE
- INITIATION OF IV CORTICOSTEROIDS (HYDROCORTISONE)

NO CLINICAL OR BIOCHEMICAL IMPROVEMENT

STEP 2 – ESCALATION OF IMMUNOSUPPRESSION

- ACUTE LIVER FAILURE AND HEPATIC ENCEPHALOPATHY
- LISTING FOR LIVER TRANSPLANTATION
- PULSE METHYLPREDNISOLONE (1 G IV DAILY x 3 DAYS)

PERSISTENT MULTIORGAN INVOLVEMENT (LIVER + PROBABLE MYOCARDITIS)

STEP 3 – RESCUE THERAPY

- INTRAVENOUS IMMUNOGLOBULIN (IVIG)
- DOSE: 1g/kg (TOTAL 80 G)
- ADMINISTERED OVER 2 CONSECUTIVE DAYS

FAVORABLE CLINICAL RESPONSE AFTER IVIG THERAPY.

DISCUSSION

DRESS IS A SEVERE T CELL-MEDIATED HYPERSENSITIVITY REACTION THAT MAY RAPIDLY PROGRESS TO LIFE-THREATENING MULTIORGAN INVOLVEMENT. IN OUR CASE, CARBAMAZEPINE-INDUCED DRESS EVOLVED INTO ACUTE HEPATIC INJURY AND MYOCARDITIS, HIGHLIGHTING ITS POTENTIAL FOR FULMINANT SYSTEMIC COMPLICATIONS. ALTHOUGH SYSTEMIC CORTICOSTEROIDS REMAIN THE CORNERSTONE OF TREATMENT, MANAGEMENT OF STEROID-REFRACTORY DRESS IS NOT CLEARLY STANDARDIZED. IN SEVERE CASES WITH MULTIORGAN DYSFUNCTION, INTRAVENOUS IMMUNOGLOBULIN (IVIG) MAY REPRESENT A THERAPEUTIC ALTERNATIVE. EARLY RECOGNITION, IMMEDIATE DRUG WITHDRAWAL, AND TIMELY IMMUNOMODULATORY ESCALATION ARE ESSENTIAL TO PREVENT IRREVERSIBLE ORGAN DAMAGE.

CONCLUSIONS

CARBAMAZEPINE-INDUCED DRESS MAY RAPIDLY EVOLVE INTO LIFE-THREATENING MULTIORGAN INVOLVEMENT, INCLUDING ACUTE LIVER FAILURE AND MYOCARDITIS. EARLY RECOGNITION, PROMPT WITHDRAWAL OF THE CULPIT DRUG, AND CLOSE MONITORING FOR SYSTEMIC COMPLICATIONS ARE CRITICAL TO IMPROVING OUTCOMES. IN SEVERE OR STEROID-REFRACTORY CASES, TIMELY IMMUNOMODULATORY ESCALATION—SUCH AS INTRAVENOUS IMMUNOGLOBULIN (IVIG)—MAY REPRESENT A VALUABLE RESCUE STRATEGY. EARLY AGGRESSIVE MANAGEMENT MAY PREVENT IRREVERSIBLE ORGAN DAMAGE AND REDUCE THE NEED FOR LIVER TRANSPLANTATION

REFERENCES

1. CHEN CB, ET AL. FRONT MED (LAUSANNE). 2023
2. HANAWA T, ET AL. J DERMATOL. 2023
3. WEI BM, ET AL. J AM ACAD DERMATOL. 2024
4. CABAÑAS R, ET AL. J INVESTIR ALERGOI CLIN IMMUNOL. 2020
5. HANAWA T, ET AL. J ALLERGY CLIN IMMUNOPRACT. 2022