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Session : Concurrent Symposium 2 (Liver)

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Session Title : Long-term outcome of LT

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## **Immunosuppression & Metabolic syndrome**

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### **Immunosuppression & Metabolic syndrome**

- There is increasing evidence that presence of metabolic syndrome (MS) induces a prominent risk for chronic graft dysfunction, graft loss, new-onset diabetes after transplantation (NODAT) and patient mortality.
- Late mortality is traditionally defined as death occurring 5 years or more after liver transplantation. Late mortality is predominantly not related to the liver graft, with high rates of cardiovascular causes and malignancies.
- NASH and NAFLD have become the most common etiologies of liver disease among LT waiting list without HCC, and NASH is becoming a leading indication in patients with HCC.
- The prevalence of metabolic syndrome is higher in liver transplant recipients when compared to the general population.
- Definition of post-transplant MS

There are different definitions, but most of them consider hypertension, obesity, dyslipidaemia, and diabetes mellitus as the main components of metabolic syndrome.

- **Post-transplantation metabolic syndrome (PTMS) as *the presence at least 3 of the following:***

1) obesity (body mass index  $>30 \text{ kg/m}^2$ ); 2) serum triglyceride level  $\geq 1.7 \text{ mmol/L}$  (150 mg/dl); 3) high density lipoprotein level  $<1 \text{ mmol/L}$  (40 mg/dl) in men and  $<1.3 \text{ mmol/L}$  in women (50mg/dl); 4) Hypertension (130/85 mmHg); and 5) fasting plasma glucose  $\geq 5.6 \text{ mmol/L}$ . (100 mg/dl) **Risk factors for PTMS**

- Age
- Male Gender
- Obesity
- dyslipidemia
- **Effect of immunosuppressant drugs**



- The etiology of Underlying liver disease necessitating liver transplantation

## Metabolic Risk and adverse effects of Immunosuppressant drugs

- Management and prevention of metabolic complications requires multiple modalities:
  - lifestyle modifications (before and after transplantation),
  - Early screening and identification of complications, and careful medication selection and titration (**tailored immunosuppressant drugs**)
  - A multidisciplinary approach requires coordination and collaboration by various members of the medical team, including those specializing in nutrition and pharmacy in addition to Hepatology and internal medicine.