

# The profile of pleural fluid analysis in the Department of Clinical Pathology dr. Cipto Mangunkusumo National General Hospital (RSCM) = Profil analisis cairan pleura di Departemen Patologi Klinik, Rumah Sakit Umum Pusat Nasional dr. Cipto Mangunkusumo (RSCM)

Diashati Ramadhani Mardiasmo, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20444138&lokasi=lokal>

---

Abstrak

## **ABSTRAK**

Pleural effusion occurs when abnormal pleural fluid accumulate within pleural cavity. The first step in pleural effusion evaluation is categorising pleural fluids into transudates and exudates using Light's Criteria, to determine differential diagnoses. Transudative pleural effusions occur when systemic factors influencing hydrostatic and oncotic pressures are imbalanced. Exudative pleural effusions occur due to local factors influencing increased vascular permeability. This research aims to describe profiles of pleural fluid analysed by Department of Clinical Pathology, Dr. Cipto Mangunkusumo National General Hospital RSCM and investigate their diagnostic value. Data were collected between January August 2016 consecutively. In total, 199 pleural fluids were assessed 123 exudative, 72 transudative and 4 transudative exudative transitional pleural fluids. The samples comprised of 56.3 females and 43.2 males. The age ranged from 1 month to 83 years old, averaging at 45.3 years old. Malignancy was the most frequent etiology found 35.7, followed by Infection 22.1. Pleural fluids were predominantly yellow 51.7. Compared to transudates, exudates were more likely to clot, mostly tested positive for Rivalta and appeared more turbid. WBC count, protein fluid, protein ratio, LDH fluid and LDH ratio of exudates were significantly higher than transudates. Exudates exhibited significantly lower glucose fluid levels. Bacteriologically, 13 samples yielded a positive culture. Profiles of transudative and exudative pleural fluids correlated with their respective clinical conditions, reflecting different underlying mechanisms, thus verifying Light's criteria. Diagnostic values of pleural fluid analyses towards its clinical diagnosis yielded Sensitivity of 66.7, Specificity of 67.9, Positive Predictive Value of 90.6 and Negative Predictive Value of 27.1.

---

## **ABSTRAK**

Pada Pleura Effusi terdapat akumulasi cairan pleura abnormal pada rongga pleura. Langkah pertama pada algoritme pleura effusi adalah kategorisasi cairan pleura menjadi transudat dan eksudat untuk menentukan diagnosis differensial. Cairan pleura transudat ditemukan pada etiologi sistemik dimana terdapat ketidakseimbangan tekanan hidrostatis dan onkotik. Cairan pleura eksudat ditemukan pada etiologi lokal dimana terdapat peningkatan permeabilitas. Cairan transudat dan eksudat dapat dibedakan menggunakan kriteria Light's. Penelitian ini bertujuan untuk mendeskripsikan profil analisis cairan pleura di Departemen Patologi Klinik, Rumah Sakit Umum Pusat Nasional Dr. Cipto Mangunkusumo RSCM dan untuk menginvestigasi nilai diagnostik analisis cairan pleura. Penelitian ini menggunakan sampel cairan pleura dari Departemen Patologi Klinik yang dipilih antara bulan Januari-Agustus 2016 secara konsekutif. Sampel berjumlah 199; 72 transudat, 127 eksudat dan 4 peralihan transudate ke eksudat. Demografik sampel adalah 56.3 perempuan dan 43.2 laki-laki. Umur berkisar antara 1 bulan-83 tahun dan rerata 45.3 tahun. Etiologi paling sering adalah keganasan 35.7, diikuti dengan infeksi 22.1. Dibandingkan dengan transudat,

eksudat lebih banyak terdapat bekuan, hasil Rivalta positif dan lebih keruh. Leukosit, protein cairan, protein rasio, LDH cairan dan LDH rasio lebih tinggi pada eksudat. Glukosa cairan lebih rendah pada eksudat. 13 sampel menunjukkan kultur positif. Terdapat korelasi antara profil cairan pleura transudat dan eksudat dengan diagnosis klinis, menunjukkan adanya perbedaan mekanisme dan menggambarkan efektifitas kriteria Light's. Nilai diagnostik analisis cairan pleura berupa sensitivitas 66.7 , spesifisitas 67.9 , nilai prediksi positif 90.6 dan nilai prediksi negatif 27.1