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The Science of Urinalysis

What Are Granular Casts?

Granular casts originate mainly from destruction and degeneration of renal tubular epithelial cells, but may also be the result of degeneration of RBCs, WBCs or platelets. The casts are generally irregularly-shaped and have fine or coarse particles that are highly refractive.

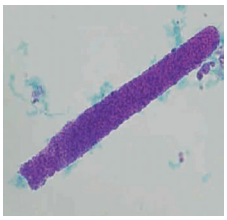
Few granular casts can be seen in normal urine. Granular casts are greatly increased in nearly all renal diseases including pyelonephritis, interstitial nephritis, glomerulonephritis and nephrotic syndrome.

Morphology/Features:

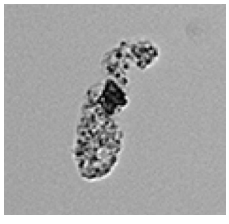
- Contains granular component amounting to one-third or more of the cast
- Granules vary in size and may be fine or coarse in appearance

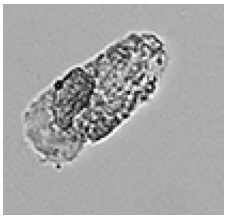
Brightfield Microscopy

Stained X400



Digital Imaging on UD-10™ Fully Automated Urine Particle Digital Imaging Device





Resources:

Color Atlas of the Urinary Sediment, College of American Pathologists, Northfield, IL

https://torontonotes.ca/category/nephrology-new/nephrology/granular-casts/ Atlas of Urinary Sediment, Sysmex Corporation, Kobe, Japan.

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