

## Images in Clinical Hematology

# Mushroom-shaped red blood cells (pincer cells): a brief update



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### ARTICLE INFO

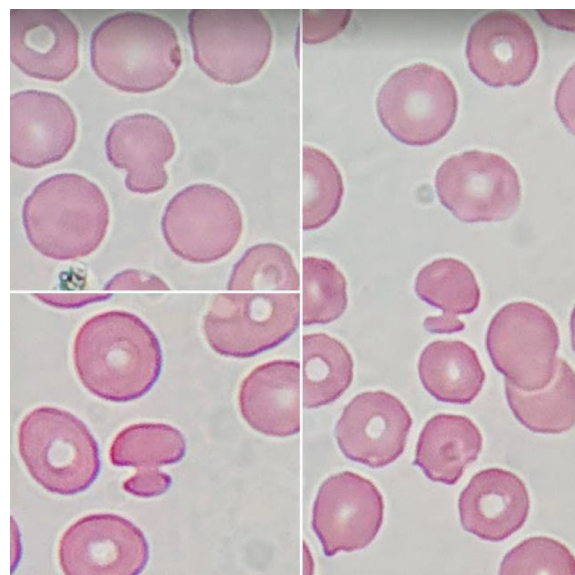
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Red cells with cytoplasmic projections, resembling pincer-like cells, also known as mushroom-shaped red blood cells, as [Figures 1 and 2](#), are usually associated with erythrocyte disorders, such as congenital dyserythropoietic anemias, hereditary spherocytosis associated with Banda-3 protein deficiency, disseminated intravascular coagulation, hemolytic-uremic syndrome, thrombotic thrombocytopenic purpura, kidney disease, microangiopathic hemolytic anemia, erythroleukemia and, more rarely, oxidative drug-induced hemolysis. However, a recent study have demonstrated a relationship between these cells and infection caused by Sars-CoV-2 in a pathophysiologic mechanism that possibly involves the occurrence of oxidative stress, which triggers progressive cascade of inflammation, known as cytokines storm, that leads to red blood cell damage.<sup>1–3</sup>



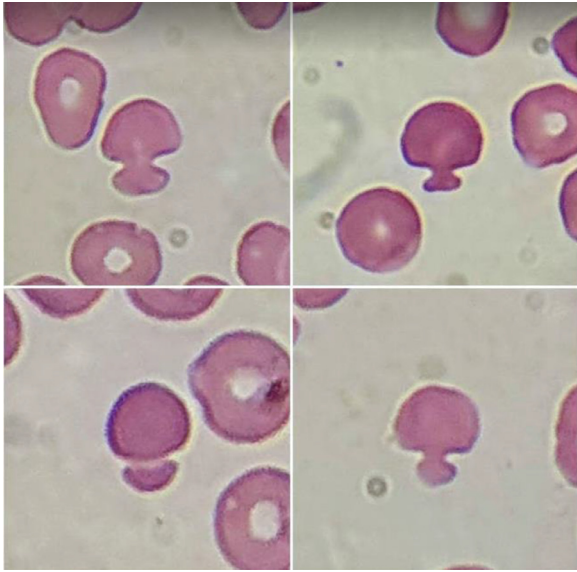
**Figure 1 – Pincer cells in a patient with chronic kidney disease and diagnosed with COVID-19.**

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**Figure 2 – Pincer cells in a patient with chronic kidney disease and diagnosed with COVID-19.**

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### Conflicts of interest

The authors declare no conflicts of interest.

### REFERENCES

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