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A Systematic Review of Immune Checkpoint Inhibitor Associated Glomerular Disease

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INTRODUCTION

Glomerular diseases are the results of disorders that affect certain parts of the kidney called glomeruli. The glomerulus may be a small network of blood vessels that are the 'washing unit' of the kidney [1]. It filters waste products and removes excess water from the blood. Glomerular disease may be a condition in which the glomeruli are damaged and unable to perform their normal functions [2]. The kidneys, her 2 bean-shaped organs on either side of her spine slightly below her ribcage, are the body's main filters. Once within the kidneys, arteries branch and blood enters a network of small blood vessels called glomeruli. Each glomerulus is attached to the opening of a little fluid-collecting tube called a tubule [3]. Each glomerular-tubular unit is named a nephron. Each kidney has about 1 million nephrons. Properly functioning glomeruli work by circulating blood cells and proteins within the bloodstream to where they are needed by the body. It leads into the renal tubules (which become the urine) [4]. Urine leaves the kidneys through larger tubes called ureters, which carry it to the bladder. The two kidneys are bean-shaped organs just below the ribcage, one on all sides of the spine. Two kidneys filter approximately 120-150 liters of blood every day to produce approximately one to two liters of urine. This urine is formed up of waste products and excess water [5].

DESCRIPTION

Blood enters the kidneys through arteries and branches into small clusters of blood vessels within the kidneys. Each cluster is called a glomerulus, derived from the Greek word for filter [4]. The plural form of the word is glomerulus. Each kidney has approximately one million glomeruli or filters. The glomeruli are attached to openings in small fluid-collecting tubes called tubules [2]. Blood is filtered by the glomeruli, and excess water and waste products enter the renal tubules and become urine. Finally, urine flows from the kidneys through larger tubes called ureters to the bladder. Glomerular disorders damage the glomeruli, causing them to leak proteins and sometimes red blood cells into the urine [5]. Glomerular disease can also interfere with the removal of waste products by the kidneys and cause waste products to accumulate in the blood. In normal blood, albumin acts like a sponge, drawing excess fluid from the body into the bloodstream where it stays until the kidneys remove it [3]. Fluid can accumulate outside the circulatory system in the face, hands, feet, or ankles, causing swelling.

CONCLUSION

Treatment of glomerulonephritis depends on the cause. For example, if glomeruli are damaged by an infection, treatment may focus on treating the infection. Certain drugs called Angiotensin-Converting Enzyme (ACE) inhibitors and Angiotensin Receptor Blockers (ARBs) help control blood pressure. Glomerulonephritis may go away without treatment. For example, if you had a bacterial infection that damaged your glomeruli, taking antibiotics to treat the infection may eventually heal your glomeruli.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

REFERENCES

1. Darvin P, Toor SM, Sasidharan V, Eyad E (2018) Immune checkpoint inhibitors: Recent progress and potential biomarkers. Exp Mol Med 50(12): 1-11.

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2. Flippot R, Escudier B, Albiges L (2018) Immune checkpoint inhibitors: Toward new paradigms in renal cell carcinoma. Drugs 78(14): 1443-1457.

3. Yokota K, Uchi H, Uhara H, Yoshikawa S, Takenouchi T, et al. (2019) Adjuvant therapy with nivolumab versus ipilimumab after complete resection of stage III/IV melanoma: Japanese subgroup analysis from the phase 3 checkmate 238 study. J Dermatol 46: 1197-1201.

4. Bottlaender L, Breton AL, de Laforcade L, Frederique D, Luc T, et al. (2017) Acute interstitial nephritis after sequential ipilumumab-nivolumab therapy of metastatic melanoma. J Immunother Cancer 5(1): 57.

5. Seethapathy H, Zhao S, Chute DF, Leyre Z, Yaa O, et al. (2019) The incidence, causes, and risk factors of acute kidney injury in patients receiving immune checkpoint inhibitors. Clin J Am Soc Nephrol 14(12): 1692-1700.