

Kidney Stone Disease: its Causes, Risk factors and Symptoms

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DESCRIPTION

Urolithiasis, another name for kidney stone disease, is a condition where a kidney stone forms in the urinary tract. Normally, kidney stones develop in the kidney and pass through the body through urination. Small stones may travel through the body unnoticed. A ureter blockage caused by a stone that is larger than 5 millimetres (0.2 in) can cause excruciating pain in the lower back or belly. In addition, a stone may cause vomiting, blood in the urine, or uncomfortable urination. Within ten years, almost half of people will develop another stone.

Causes

Fluid consumption is one of the main contributing reasons to kidney stone formation because it causes the chemicals in patient urine to become highly concentrated. patient can put at a higher risk of getting a stone if patient don't drink enough water [1]. Too much or too little are some more potential contributing factors at risk factors for kidney stones: excessive salt or sugar in food, infections, medications, obesity, and weight-loss surgery [2].

Risk factors

If patients have any of the following conditions, including cystic kidney disease, which causes fluid-filled sacs to form on patient kidneys, or cystinuria, which causes patient urine to have high levels of the amino acid cystine, people may be more likely to develop kidney stones. Kidney stones run in families. Gout is a disease that causes severe joint swelling and has previously required gastrointestinal surgery [3]. A hereditary disease called hypercalciuria causes high calcium levels in the urine.

High oxalate levels in the urine are a symptom of hyperoxaluria. Hyperuricosuria is a condition in which human urine has high levels of uric acid [4]. Hyperparathyroidism is a condition in which human parathyroid glands in patient neck release an excessive amount of hormones, causing additional calcium to build up in patient blood. Renal tubular acidosis is a condition in which the kidneys are unable to eliminate acids into urine, leaving the urine overly alkaline and the blood overly acidic [5].

Symptoms

An obstruction in the ureter or renal pelvis can cause excruciating, intermittent pain spreading from the flank to the groin or to the inner thigh. This is due to the fact that referred pain signals are sent from the lower thoracic splanchnic neurons to the lumbar splanchnic nerves as the stone moves from the kidney or proximal ureter to the distal ureter. One of the worst pain experiences ever is commonly described as renal colic pain [6]. Renal colic caused by kidney stones is characterised by urinary urgency, restlessness, hematuria, sweating, nausea, and vomiting. The ureter's peristaltic contractions as it tries to pass the stone cause it to typically come on in waves of 20 to 60 minutes [7]. The embryological link between the urinary tract, the genital system, and the gastrointestinal tract is the cause of the discomfort radiating to the gonads as well as the nausea and vomiting that are also common in urolithiasis. Postrenal azotemia and hydronephrosis are conceivable when one or both ureters get obstructed. The exact location of the discomfort may be difficult to determine because the sigmoid colon and ureter overlap, and pain in the lower-left quadrant might occasionally be misinterpreted for diverticulitis [8].

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