Case 389

3. Urinoma

【Progress】

Her urinary balloon catheter that was mis-inflated in vagina, occluding outlet of urethra, was exchanged to a new one. It induced to excrete massive volume of urine. A few days later, urine leak volume was confirmed to shrunk on the follow-up CT.

【Discussion】

Urine leak and urinoma have the same meaning term. Urine ooze from urinary tract is named urine leak, and urine accumulation forms like an envelope is named urinoma (1). Urine dissolves the surrounding fat tissue, forming an envelope. This situation occurs most in retroperitoneal space, namely, perirenal space.

Urinoma is formed by the mechanism of occlusion of urinary tract including iatrogenic and/or traumatic episode. It can be formed by non-occlusive mechanism of urinary tract such as pyelonephritis. The higher elevation of creatinine in the fluids than that in blood is diagnostic of urinoma (1). As occlusive diseases of urinary tract, ureter stone, urinary tract tumors such as pelvic tumor, ureter cancer, and urinary bladder cancer, are listed (2-7). Further, extra-urinary occlusive lesions such as retroperitoneal fibrosis, retroperitoneal tumors, uterine cancer, ovary tumors, are listed. Furthermore, urinary tract trauma, post-surgery complication, post-diagnostic injury, are listed (2-7).

Urinoma is formed in retroperitoneal space: perirenal space, anterior pararenal space, posterior pararenal pace, pelvic retroperitoneal space along with psoas muscle (1). It is rarely formed in peritoneal space via anterior pararenal space.

The symptoms caused by urinoma are abdominal pain, lumbar pain, weight loss, abdominal mass. It can be symptomless in case of small volume of urine leakage. When it is infected, it causes abscess and/or sepsis (2-7).

As treatments, when it is small, conservative, watchful serve is given. In case of large urinoma, drainage catheter via perirenal or periureteric approach, is inserted. Direct drainage catheter is inserted for retroperitoneal abscess. Urine culture test is necessary for proper selection of antibiotics.

In our case, laboratory test revealed renal failure. The urinary balloon catheter was inserted but no urine was excreted. CT showed fully dilated urinary bladder with leakage of urine surrounding renal pelvis into the perirenal space. The balloon catheter was not inserted into urinary bladder but vagina. The balloon catheter inserted in vagina made the urethra outlet occlude. This situation leads the full dilatation of urinary bladder, vesicoureteral reflux, elevation of intra-urinary tract pressure, and finally leakage of urine surrounding renal pelvis. Renal pelvis is one of the weakest portions, inducing possible leaks of urine. Balloon catheter was exchanged, inducing excretion of massive urine.

【Summary】

We presented an-eighty-five-year-old female in our hospital for consciousness disorder and edema. The laboratory test revealed renal failure. A fully distended urinary bladder, vesicoureteral reflux, urine leak from renal pelvis to perirenal space are depicted on CT. Further, urinary balloon catheter was mis-inflated in vagina, inducing blockade of urine excretion. The balloon catheter is re-inserted into a proper position, inducing the excretion of massive urine. It is borne in mind that urine leak, urinoma is caused by elevation of intra-urinary tract pressure. Then, its cause should be investigated for managements to relieve elevation of intra-urinary tract pressure.

【References】

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