

Focal Segmental Glomerulosclerosis Secondary to Hodgkin's Lymphoma: A Case Report

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Abstract

Case Report

Focal segmental glomerulosclerosis (FSGS) accounts for 12-35% of nephrotic syndrome (NS) in adult. The association between FSGS and Hodgkin's disease is rare. NS may precede, be concomitant with or appear secondary to Hodgkin's lymphoma. We report a case of a 57-year-old patient who was admitted with impure NS with 7g/24h of proteinuria, renal failure and microscopic haematuria, revealing FSGS on renal biopsy, with concomitant discovery of Hodgkin's lymphoma of sclero-nodular type. Treatment of Hodgkin's lymphoma with chemotherapy led to disappearance of the NS and complete recovery of renal function. The association of FSGS and Hodgkin lymphoma, although rare, is not a myth but a reality. Histology and imaging are important diagnostic tools. Early initiation of specific chemotherapy is a fundamental condition for complete recovery of renal function.

Keywords: Focal Segmental Glomerulosclerosis, Hodgkin's Lymphoma.

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INTRODUCTION

Focal segmental glomerulosclerosis (FSGS) accounts for 12% to 35% of nephrotic syndromes in adults [1]. It is one of the least frequently reported renal lesions associated with malignancy, even less in association with Hodgkin's lymphoma [2]. Its mechanism is thought to be related to expression of vascular endothelial growth factor (VEGF) and transforming growth factor beta 1 (TGF-β1), factors which are thought to be increased in Reed Sternberg cells in Hodgkin's lymphoma [2]. Renal involvement may precede the onset of hematological malignancy. It may also occur during or at the end of treatment [3].

In our case, we report the concomitant discovery of FSGS and Hodgkin's lymphoma, with remission of the NS and the renal function after chemotherapy.

CASE PRESENTATION

A 57-year-old man, chronic smoker (40 pack-years) and bronchorrhagic, was admitted to our department of Nephrology with an edematous syndrome consisting of edema of the lower limbs extending to the thighs, with hydrocele that had been evolving for a

month, in a context of altered general condition with no other associated symptoms.

Clinical examination revealed a blood pressure of 11/7 cm/hg, a heart rate of 90 beats/minute and a respiratory rate of 20 cycles/minute. His weight was 68 kg. Temperature was normal. Diuresis was preserved, with 4 crosses of protein and 3 crosses of blood on the urine dipstick test. Bilateral inguinal adenopathies measuring 1-3 cm in diameter were noted.

The initial laboratory tests revealed an impure nephrotic syndrome with proteinuria of 7g/24h, hypoalbuminemia at 17 g/l and hypoprotidemia at 49 g/l, with renal failure at 43 mg/l of creatinine (eGFR at 15 ml/min). Sero-immunological and quantiferon testing were negative.

The reno-vesical ultrasound revealed normal-sized kidneys, well differentiated, with moderate unilateral left ureterohydronephrosis (without detectable obstruction), for which a ureteral catheter (double J) was inserted, followed by disappearance of dilatation, but no change in renal function.

A chest X-ray revealed a blunted left diaphragmatic dome and bilateral bronchial syndrome.

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Abdominal CT revealed multiple peritoneal adenopathies involving the posterior infra-mediastinal, lumbo-aortic, inter-aorto-caval, pre- and retro-caval, mesenteric, primitive iliac and inguinal territories.

Renal biopsy was performed and revealed focal segmental glomerulosclerosis with chronic interstitial damage. The patient received a high-dose of corticosteroid therapy (1mg/kg/day) combined with symptomatic treatment. A lymph node biopsy was then performed, concluding in classical Hodgkin's lymphoma of the sclero-nodular type. A additional work-up was performed with a cervico-thoraco-abdomino-pelvic CT scan and an osteo-medullary biopsy, confirming the diagnosis of lymphoma stage IIIb.

Treatment consisted of six courses of ABVD chemotherapy (adriamycin, bleomycin, vinblastine and dacarbazine) prescribed every 2 weeks for eight sessions, in combination with diuretics and angiotensin-converting enzyme inhibitors, while the corticosteroid therapy was discontinued.

After the eight cycles of chemotherapy (4 months), the response to treatment was excellent, with complete remission of NS and full recovery of renal function.

DISCUSSION

The association between nephrotic syndrome and malignancy was first described in 1922 by Galloway [2]. The incidence of nephrotic syndrome (preceding, synchronous or revealing) in Hodgkin disease is low, estimated at around 0.5-1% [3]. The most common glomerular lesion encountered in Hodgkin lymphoma is the minimal change disease [2-5], in contrast to FSGS, which is the rare glomerular lesion [2-6].

Seven cases of FSGS associated with Hodgkin lymphoma have been reported in the literature. The diagnosis of FSGS preceded the discovery of lymphoma in four patients, followed lymphoma in one patient and was concomitant with the discovery of lymphoma in two patients [2]. In our case, FSGS and lymphoma were discovered concomitantly.

The age range found in the literature was between 16 and 62 years, with a predominance of males. However, neither the stage of the disease, nor the age and sex of the subjects presenting this association were not significantly linked to this association. The literature reports a predominance of the sclero-nodular form [3-7], as in our case.

Clinical and biological response in our patient was rapid and complete after lymphoma specific chemotherapy, which is similar to cases described in the literature [2-9].

CONCLUSION

The association between FSGS and Hodgkin's lymphoma, although rare, can occur in some cases. The sooner lymphoma is diagnosed and treated, the faster and better is the response to chemotherapy. This explains the importance of thorough clinical and paraclinical investigation to check hematological malignancies, rare but severe, which can lead to various glomerulopathies.

Conflicts of Interest: No conflicts of interest declared by the authors.

REFERENCES

- Mallouk, A., Pham, P. T. T., & Pham, P. C. T. (2006). Concurrent FSGS and Hodgkin's lymphoma: case report and literature review on the link between nephrotic glomerulopathies and hematological malignancies. *Clinical and experimental nephrology*, 10, 284-289.
- Grèze, C., Garrouste, C., Kemeny, J. L., Philipponnet, C., Aniort, J., & Heng, A. É. (2018). Hyalinose segmentaire et focale collapsante secondaire au cytomégalovirus: À propos d'un cas. *Néphrologie & Thérapeutique*, 14(1), 50-53.
- Thariat, J., Vendrely, B., Roca, S., Ravaud, A., Bay, J. O., Lacout, A., ... & Besancenot, J. F. (2012). Syndromes paranéoplasiques à expression rénale et atteintes rénales des cancers. *Bulletin du cancer*, 99(3), 263-275.
- Nafil, H., Tazi, I., & Mahmal, L. (2011, November). Hodgkin's disease revealed by a nephrotic syndrome: a case report with literature review. In *Annales de Biologie Clinique* (Vol. 69, No. 6, pp. 689-692).
- Dauchy, F. A., Etienne, G., Deminière, C., Combe, C., Merville, P., & Longy-Boursier, M. (2006). Lymphomes à manifestations initiales rénales: à propos de quatre observations. *La Revue de médecine interne*, 27(12), 909-915.
- Guillot, V., Saint-Lézer, A., Prevel, R., Sahali, D., Bouabdallah, K., Dilhuydy, M. S., & Milpied, N. (2014). Syndrome néphrotique paranéoplasique et maladie de Hodgkin: à propos de c-mip. *La Revue de Médecine Interne*, 35, A194-A195.
- Plager, J., & Stutzman, L. (1971). Acute nephrotic syndrome as a manifestation of active Hodgkin's disease: report of four cases and review of the literature. *The American journal of medicine*, 50(1), 56-66.
- Audard, V., Larousserie, F., Grimbart, P., Abtahi, M., Sotto, J. J., Delmer, A., ... & Hermine, O. (2006). Minimal change nephrotic syndrome and classical Hodgkin's lymphoma: report of 21 cases and review of the literature. *Kidney international*, 69(12), 2251-2260.
- Cheptou, M., Pichault, V., Campagni, R., Vodoff, M. V., Fischbach, M., & Paillard, C. (2015). Lymphome de Hodgkin révélé par un syndrome néphrotique: à propos d'un cas. *Archives de Pédiatrie*, 22(12), 1268-1271.