ISSN 2307-8960 (online)

World Journal of *Clinical Cases*

World J Clin Cases 2021 September 6; 9(25): 7292-7613

Published by Baishideng Publishing Group Inc

World Journal of Clinical Cases

Contents

Thrice Monthly Volume 9 Number 25 September 6, 2021

EDITORIAL

OPINION REVIEW

MINIREVIEWS

ORIGINAL ARTICLE

Retrospective Study

World Journal of Clinical Cases

Thrice Monthly Volume 9 Number 25 September 6, 2021

Contents

World Journal of Clinical Cases

Thrice Monthly Volume 9 Number 25 September 6, 2021

Contents

World Journal of Clinical Cases

Thrice Monthly Volume 9 Number 25 September 6, 2021

Contents

ABOUT COVER

Editorial Board Member of *World Journal of Clinical Cases*, Lan Sun, MD, PhD, Chief Physician, Professor, Department of Oncology, The People's Hospital of Bishan District, Chongqing 402760, China. sunlan6203@163.com

AIMS AND SCOPE

The primary aim of *World Journal of Clinical Cases* (*WJCC*, *World J Clin Cases*) is to provide scholars and readers from various fields of clinical medicine with a platform to publish high-quality clinical research articles and communicate their research findings online.

WJCC mainly publishes articles reporting research results and findings obtained in the field of clinical medicine and covering a wide range of topics, including case control studies, retrospective cohort studies, retrospective studies, clinical trials studies, observational studies, prospective studies, randomized controlled trials, randomized clinical trials, systematic reviews, meta-analysis, and case reports.

INDEXING/ABSTRACTING

The *WJCC* is now indexed in Science Citation Index Expanded (also known as SciSearch®), Journal Citation Reports/Science Edition, Scopus, PubMed, and PubMed Central. The 2021 Edition of Journal Citation Reports® cites the 2020 impact factor (IF) for *WJCC* as 1.337; IF without journal self cites: 1.301; 5-year IF: 1.742; Journal Citation Indicator: 0.33; Ranking: 119 among 169 journals in medicine, general and internal; and Quartile category: Q3. The *WJCC*'s CiteScore for 2020 is 0.8 and Scopus CiteScore rank 2020: General Medicine is 493/793.

RESPONSIBLE EDITORS FOR THIS ISSUE

Production Editor: *Yan-Xia Xing*; **Production Department Director:** *Xiang Li*; **Editorial Office Director:** *Jin-Lei Wang*.

NAME OF JOURNAL
World Journal of Clinical Cases

ISSN
ISSN 2307-8960 (online)

LAUNCH DATE
April 16, 2013

FREQUENCY
Thrice Monthly

EDITORS-IN-CHIEF
Dennis A Bloomfield, Sandro Vento, Bao-Gan Peng

EDITORIAL BOARD MEMBERS
https://www.wjgnet.com/2307-8960/editorialboard.htm

PUBLICATION DATE
September 6, 2021

INSTRUCTIONS TO AUTHORS
https://www.wjgnet.com/bpg/gerinfo/204

GUIDELINES FOR ETHICS DOCUMENTS
https://www.wjgnet.com/bpg/GerInfo/287

GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH
https://www.wjgnet.com/bpg/gerinfo/240

PUBLICATION ETHICS
https://www.wjgnet.com/bpg/GerInfo/288

PUBLICATION MISCONDUCT
https://www.wjgnet.com/bpg/gerinfo/208

ARTICLE PROCESSING CHARGE
https://www.wjgnet.com/bpg/gerinfo/242

STEPS FOR SUBMITTING MANUSCRIPTS
https://www.wjgnet.com/bpg/GerInfo/239

ONLINE SUBMISSION
https://www.f6publishing.com

World Journal of Clinical Cases

Submit a Manuscript: https://www.f6publishing.com

World J Clin Cases 2021 September 6; 9(25): 7453-7458

DOI: 10.12998/wjcc.v9.i25.7453

ISSN 2307-8960 (online)

CASE REPORT

Successful treatment of solitary bladder plasmacytoma: A case report

Jia-Dong Cao, Peng-Hui Lin, Dan-Feng Cai, Jia-Hua Liang

ORCID number: Jia-Dong Cao 0000-0003-1954-7922; Peng-Hui Lin 0000-0003-3659-4181; Dan-Feng Cai 0000-0002-3356-2734; Jia-Hua Liang 0000-0002-9869-421X.

Author contributions: Cao JD conducted literature search, collected data, interpreted the data, and prepared the manuscript; Liang JH collected data, interpreted the data, edited the manuscript, and critically revised the draft; Cai DF interpreted the data and critically revised the draft; Lin PH designed the study, interpreted the data, edited the manuscript, and critically revised the draft.

Informed consent statement: The patient has given her written informed consent to publish the case (including publication of images).

Conflict-of-interest statement: The authors have no conflicts of interest to declare.

CARE Checklist (2016) statement: The authors have read the CARE Checklist (2016), and the manuscript was prepared and revised according to the CARE Checklist (2016).

Open-Access: This article is an open-access article that was selected by an in-house editor and

Jia-Dong Cao, Department of Urology, The Second Affiliated Hospital of Guangzhou University of Chinese Medicine, Guangzhou 510105, Guangdong Province, China

Peng-Hui Lin, Dan-Feng Cai, Jia-Hua Liang, The Second Clinical College, Guangzhou University of Chinese Medicine, Guangzhou 510405, Guangdong Province, China

Corresponding author: Jia-Hua Liang, Surgeon, The Second Clinical College, Guangzhou University of Chinese Medicine, No. 12 Jichang Road, Guangzhou 510405, Guangdong Province, China. 283975468@qq.com

Abstract

BACKGROUND

Plasmacytoma is a rare neoplastic disorder that arises from B-lymphocytes. Solitary bladder plasmacytoma, a type of solitary extramedullary plasmacytoma, is even rarer. Treatments for solitary extramedullary plasmacytoma include surgery, chemotherapy, and radiation. However, there are no clinical trials or guidelines specifying which treatment might represent the gold standard.

CASE SUMMARY

We herein report a case of a 51-year-old woman with solitary bladder plasmacytoma (SBP). There remains no consensus regarding the optimal treatment for SBP. However, we successfully treated her with transurethral resection of bladder tumor followed by postoperative radiotherapy (50 Gy/25 F). The patient remained free of tumor recurrence at a 7-mo follow-up.

CONCLUSION

Radiation is the potential main treatment for SBP. However, surgery is also necessary.

Key Words: Bone marrow; Local neoplasm recurrence; Multiple myeloma; M-proteins; Urinary bladder neoplasms; Case report

Core Tip: Solitary bladder plasmacytoma is rare. At present, there is no consensus on the optimal treatment for this disease. Herein, we reviewed past case reports on SBP

Manuscript source: Unsolicited manuscript

Specialty type: Oncology

Country/Territory of origin: China

Peer-review report's scientific quality classification

Grade A (Excellent): A
Grade B (Very good): 0
Grade C (Good): C
Grade D (Fair): 0
Grade E (Poor): 0

Received: December 28, 2020
Peer-review started: December 28, 2020
First decision: April 29, 2021
Revised: May 9, 2021
Accepted: July 7, 2021
Article in press: July 7, 2021
Published online: September 6, 2021

P-Reviewer: Pessoa WFB, Xavier-Elsas P
S-Editor: Liu M
L-Editor: Filipodia
P-Editor: Guo X

and suggested radiation as its main treatment based on our results. Furthermore, radiation combined with surgery may be better than radiation alone. In addition, close monitoring is as important as treatment, and monoclonal protein is significant to the prognosis of this disease.

Citation: Cao JD, Lin PH, Cai DF, Liang JH. Successful treatment of solitary bladder plasmacytoma: A case report. *World J Clin Cases* 2021; 9(25): 7453-7458
URL: https://www.wjgnet.com/2307-8960/full/v9/i25/7453.htm
DOI: https://dx.doi.org/10.12998/wjcc.v9.i25.7453

INTRODUCTION

There are three types of plasmacytomas: Extramedullary plasmacytomas (EMP), solitary plasmacytomas of bone, and multiple myeloma (MM)[1,2]. MM is a common hematological malignancy characterized by the proliferation of clonal plasma cells and the production of monoclonal proteins[3]. Single plasmacytoma and isolated EMP of bone belong to isolated plasmacytoma[1], which refers to localized plasmacytoma occurring in bone (isolated plasmacytoma of bone) or outside bone marrow (single EMP). Less than 5% of plasmacytomas might present as single lesions, whereas extramedullary soft-tissue plasmacytomas are rarer[4]. Most solitary EMP (SEPs)[3] are localized in the head and neck, especially the upper respiratory tract; the second most frequent site is the gastrointestinal tract. Conversely, few rare sites reported include the central nervous system, thyroid, breast, testes, parotid glands, and urinary bladder[5]. Bladder plasmacytoma (BP)[6] is extremely uncommon, with only 22 cases having been reported so far before 2010; 8 had a history of MM, while 5 had lymphadenopathy at presentation, and the most recent one[7] was an asymptomatic solitary bladder plasmacytoma (SBP).

However, solitary plasmacytoma[8,9] can develop into MM, as a more aggressive plasmacytoma associated with shorter progression-free survival and poorer prognosis. Based on the different treatments and prognoses of their malignancies, solitary plasmacytoma should be distinguished from MM.

The diagnostic criteria for isolated plasma cell tumors are: (1) Single extramedullary mass caused by clonal proliferation of plasma cells; (2) Normal morphological examination of bone marrow cells and bone marrow biopsy; (3) Normal skeletal survey including an X-ray examination of the long bones; (4) No anemia, hypercalcemia, or renal failure due to plasma cell disease; and (5) Lack or low levels of monoclonal immunoglobulins in serum or urine. Magnetic resonance imaging) and positron emission tomography-computed tomography (CT) are obviously helpful for determining whether SEP progresses to MM[3].

CASE PRESENTATION

Chief complaints

A 51-year-old woman presented with acute urination pain for 2 wk.

History of present illness

The patient was previously diagnosed with acute urethritis at another institution. After having been unsuccessfully treated, she was transferred to our hospital for further diagnosis and treatment.

History of past illness

The patient had no history of any other illness.

Personal and family history

Normal menstruation in the past, but she is menopausal now. She denied any family history.

Physical examination

No abdominal mass was palpated, no pain was elicited upon pressing the bladder area, and no obvious positive findings were found.

Laboratory examinations

The results such as routine hematological testing, blood sedimentation rate, serum carbohydrate antigen (CA)199, CA125, CA153, alpha-fetoprotein, and carcinoembryonic antigen and so on were normal.

Imaging examinations

A renal color-Doppler ultrasonography detected solid bladder nodules localized at the inner surface of the urinary bladder close to the urethral orifice. Then, the patient was transferred to our hospital for more specialized treatment. We performed contrast-enhanced CT scan of both kidneys and the pelvis. It indicated posterior bladder occupation: A nodule on the posterior surface of the bladder, measuring about 15 mm × 11 mm. The CT attenuation value of plain scan was about 26 Hu, and the enhancement was obvious, showing progressive enhancement of about 80 Hu. Neoplastic lesions were considered, and bladder cancer was not excluded (Figure 1).

FINAL DIAGNOSIS

Solitary bladder plasmacytoma.

TREATMENT

The patient consented to undergo transurethral resection of bladder tumor. Pathological examination of the resected specimen suggested bladder tumor: Diffuse infiltration of tumor cells of the same size in the lamina propria were present, the nucleus was offset, and it looked like plasma cells. Mitosis was rare, and plasmacytoma was highly suspected. Immunohistochemistry results revealed: P63 (-), cytokeratin 20 (-), P53 (-), Ki67 (2%+), GATA binding protein 3 (-), and cytokeratin (-). B-cell lymphoma clonal gene rearrangement test results were: immunoglobulin heavy chain (+) and immunoglobulin light chain (+). Supplemental immunohistochemical results were: CD38 (+), CD138 (+), Kappa (+), and Lambda (-) (Figure 2).

Thereafter, as we recommended, the patient underwent postoperative radiation therapy of 50 Gy/25 F. Further bone marrow examination revealed that the ratio of bone marrow hematopoietic tissue to fat cells was about 4:6 under microscope; three lines of hematopoietic cells could be seen. In addition, the proportion of granulocytes and erythrocytes was also slightly elevated. Erythroblasts were the most identified cells in the erythroid. Myelocytes, metamyelocytes, and mature granulocytes were the most identified cells in the granulocyte series. No obvious abnormalities in the morphology and number of megakaryocytes were observed. No significant increase in the number of plasma cells was seen. Immunohistochemical results were: CD20 (Scattered decimal+), CD3 (Scattered decimal+), CD138 (Scattered+), CD38 (Scattered+), K (few+), L (Scattered+), epithelial membrane antigen (-), multiple myeloma oncogene 1 (-), CD56 (-), and myeloperoxidase (part+).

OUTCOME AND FOLLOW-UP

Postoperative positron emission tomography-CT indicated: (1) Normal changes after resection of the posterior tumor of the bladder; a close follow–up was recommended; (2) The trunk axis bone metabolism was slightly increased diffusely; thus, it was necessary to pay attention to the possibility of developing myeloma, and bone marrow biopsy was recommended; (3) There were multiple slightly enlarged lymph nodes in level II of the bilateral neck space, and the metabolism was slightly increased, suggesting lymph node inflammatory hyperplasia; (4) The soft tissues around the shoulder joints were slightly thickened, and the metabolic symmetry was slightly increased indicating inflammatory changes; and (5) No clear abnormally high metabolic lesions in the rest of the body were detected. Laboratory test results including serum calcium and hemoglobin levels were normal. Levels of serum

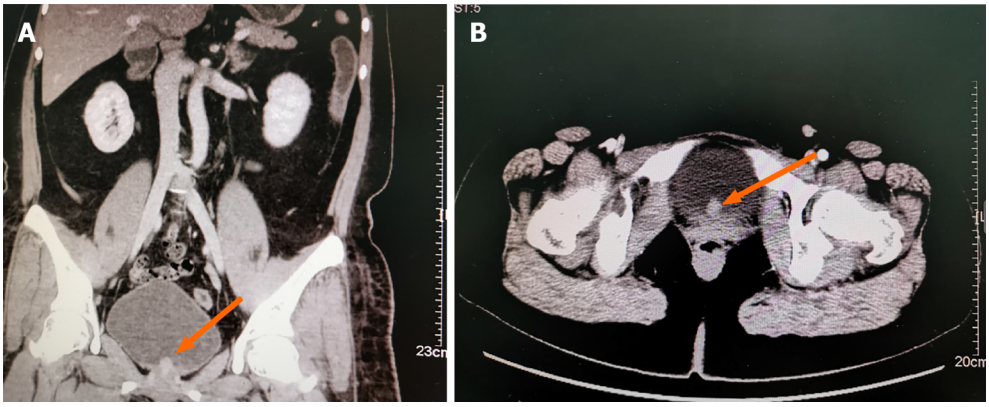

Figure 1 Computed tomography image showing a bladder neoplasm (arrow).

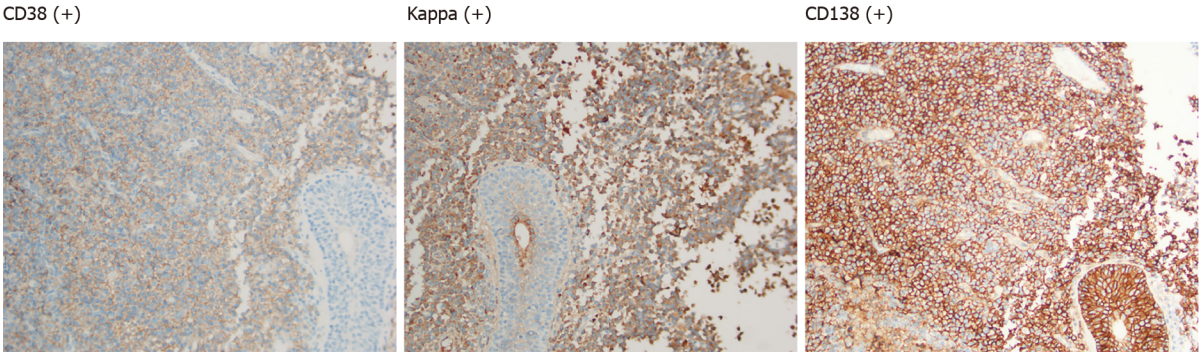

Figure 2 Pathological immunohistochemical results of bladder mass after resection (hematoxylin-eosin, 400 ×).

immunoglobulins: Kappa and lambda and Bence-Jones protein were also normal. After completing postoperative radiotherapy of 50 Gy/25 F, a 7-mo follow-up showed no obvious symptoms.

DISCUSSION

Based on our findings, radiotherapy might be the main treatment of SBP. However, surgery is also necessary. Close collaboration between the hematology department, radiotherapy department, and surgeons is essential to formulate an appropriate treatment plan. Radical radiotherapy is recommended for SBP as the first choice. The tumor irradiation range should be at least 2 cm outside the edge detection of the magnetic resonance imaging view. The dose used was 40 Gy, given in 20 doses. When SEP is > 5 cm, the recommended dose should be 50 Gy, given in 25 divided doses. Evaluation of the response after radiotherapy depends on changes in monoclonal protein levels, progression or elimination of symptoms, and appearance of new lesions on imaging examinations. Patients whose monoclonal protein disappears after treatment indicate a high probability of cure. However, patients whose paraproteins persist after 1 year of treatment will progress to MM. The role of adjuvant chemotherapy has not yet been elucidated. Adding chemotherapy to radiotherapy has advantages in improving local control and preventing or delaying progression to MM. Patients with SBP need to be closely monitored for developing MM and should be followed up every 6 wk for 6 mo[2].

Regarding prognosis, patients with systemic diseases have a poor prognosis, and 10% of patients experience local recurrence[7]. However, there is currently a lack of reports on specific long-term follow-up data of bladder plasmacytoma[10].Therefore, we reviewed nine case reports of SBP and summarized them in Table 1.

Most of the cases reviewed were treated with radiotherapy, and some cases underwent adjuvant chemotherapy or surgery. Two of these 9 cases were reported dead. Only 1 case developed MM and died, and there were no signs of recurrence. Therefore, the recurrence rate of SBP is low, and prognosis is significantly better than

Table 1 Literature review

Ref.	Age	Sex	Main symptoms	Treatment	Prognosis
Takahashi *et al*[8]	28	Female	Hematuria (after renal transplantation)	ED combined with chemotherapy including vincristine, doxorubicin, and dexamethasone	Died after 1 yr (developed to MM)
Cormio *et al*[9]	74	Female	No urinary symptoms (complicated with liver cirrhosis)	Transurethral resection of bladder tumor	No recurrence was found after 4 mo (but died of liver failure)
Wadhwa *et al*[10]	69	Male	Hematuria (complicated with bladder urothelial carcinoma)	Transurethral resection of bladder tumor and radiotherapy	No recurrence (still following up)
Mokhtar *et al*[11]	95	Female	Hematuria	Radiotherapy	No supply data
Yang *et al*[12]	47	Male	Dysuria, hematuria, low back pain	Cyclophosphamide and radiotherapy	No recurrence was found after 13 yr
Yang *et al*[12]	68	Female	Hematuria	Systemic chemotherapy (melphalan)	No recurrence was found after 1 yr
Ho *et al*[13]	74	Female	Dysuria	Radiotherapy and cystectomy	No recurrence was found after 4 yr
Gorfain[14]	39	Male	Hematuria	Partial cystectomy and radiotherapy	No recurrence was found after 1 yr
Miller *et al*[15]	61	Male	Hematuria	Radiotherapy	No recurrence in a short term (still following up)

MM: Multiple myeloma.

that of MM. However, SBP is still possible to progress to MM.

SBP is a very rare bladder malignancy. At present, there is still a lack of optimally sufficient treatment and prognostic data on SBP. Treatment of SBP is mainly based on the treatment of SEP. In terms of prognosis, the recurrence rate and survival rate of SBP are still unclear, and it may progress to MM. However, the overall prognosis of SBP is significantly better than that of MM.

CONCLUSION

Radiation is the potential main treatment of SBP. Moreover, radiation combined surgery may be better than radiation alone. In addition, close monitoring and follow-up are as important as treatment, and monoclonal protein is a significant laboratory examination for the prognosis of this disease.

REFERENCES

1 **Raab MS**, Podar K, Breitkreutz I, Richardson PG, Anderson KC. Multiple myeloma. *Lancet* 2009; **374**: 324-339 [PMID: 19541364 DOI: 10.1016/S0140-6736(09)60221-X]

2 **Soutar R**, Lucraft H, Jackson G, Reece A, Bird J, Low E, Samson D; Guidelines Working Group of the UK Myeloma Forum; British Committee for Standards in Haematology; British Society for Haematology. Guidelines on the diagnosis and management of solitary plasmacytoma of bone and solitary extramedullary plasmacytoma. *Br J Haematol* 2004; **124**: 717-726 [PMID: 15009059 DOI: 10.1111/j.1365-2141.2004.04834.x]

3 **Siegel RL**, Miller KD, Jemal A. Cancer Statistics, 2017. *CA Cancer J Clin* 2017; **67**: 7-30 [PMID: 28055103 DOI: 10.3322/caac.21387]

4 **Moulopoulos LA**, Dimopoulos MA, Weber D, Fuller L, Libshitz HI, Alexanian R. Magnetic resonance imaging in the staging of solitary plasmacytoma of bone. *J Clin Oncol* 1993; **11**: 1311-1315 [PMID: 8315427 DOI: 10.1200/JCO.1993.11.7.1311]

5 **Wirk B**, Wingard JR, Moreb JS. Extramedullary disease in plasma cell myeloma: the iceberg phenomenon. *Bone Marrow Transplant* 2013; **48**: 10-18 [PMID: 22410751 DOI: 10.1038/bmt.2012.26]

6 **Kondo H**, Kainuma O, Itami J, Minoyama A, Nakada H. Extramedullary plasmacytoma of maxillary sinus with later involvement of the gall bladder and subcutaneous tissues. *Clin Oncol (R Coll Radiol)* 1995; **7**: 330-331 [PMID: 8580064 DOI: 10.1016/s0936-6555(05)80547-3]

7 **Khaliq W**, Uzoaru I, Konchanin RP, Sapiente RA, Egner JR. Solitary extramedullary plasmacytoma

of the bladder: a case report and literature. *Oncology (Williston Park)* 2010; **24**: 832-835 [PMID: 20923037]

8 **Takahashi R**, Nakano S, Namura K, Yamada N, Uchida R, Fuchida S, Okano A, Okamoto M, Ochiai N, Shimazaki C. Plasmacytoma of the urinary bladder in a renal transplant recipient. *Int J Hematol* 2005; **81**: 255-257 [PMID: 15814337 DOI: 10.1532/IJH97.04148]

9 **Cormio L**, Mancini V, Calò B, Selvaggio O, Mazzilli T, Sanguedolce F, Carrieri G. Asymptomatic solitary bladder plasmocytoma: A case report and literature review. *Medicine (Baltimore)* 2017; **96**: e9347 [PMID: 29390408 DOI: 10.1097/MD.0000000000009347]

10 **Wadhwa K**, Singh R, Solomon LZ. Bladder extramedullary plasmacytoma and synchronous bladder urothelial transitional cell carcinoma: A case report and review of the literature. *Open Access J Urol* 2011; **3**: 25-27 [PMID: 24198632 DOI: 10.2147/OAJU.S10897]

11 **Mokhtar GA**, Yazdi H, Mai KT. Cytopathology of extramedullary plasmacytoma of the bladder: a case report. *Acta Cytol* 2006; **50**: 339-343 [PMID: 16780033 DOI: 10.1159/000325966]

12 **Yang C**, Motteram R, Sandeman TF. Extramedullary plasmacytoma of the bladder: a case report and review of literature. *Cancer* 1982; **50**: 146-149 [PMID: 7083118 DOI: 10.1002/1097-0142(19820701)50:1<146::aid-cncr2820500127>3.0.co;2-x]

13 **Ho DS**, Patterson AL, Orozco RE, Murphy WM. Extramedullary plasmacytoma of the bladder: case report and review of the literature. *J Urol* 1993; **150**: 473-474 [PMID: 8326583 DOI: 10.1016/s0022-5347(17)35519-2]

14 **Gorfain AD**. Extramedullary plasmacytoma of the bladder with local metastasis. *Calif Med* 1949; **71**: 147 [PMID: 18146914]

15 **Miller DV**, McClure RF, Crawford BG, Zeldenrust SR, Leibovich BC, Sebo TJ. Histiocytes containing immunoglobulin crystals in the urine of a patient with IgA kappa plasmacytoma of the bladder. *Diagn Cytopathol* 2004; **31**: 48-51 [PMID: 15236265 DOI: 10.1002/dc.20083]

Published by **Baishideng Publishing Group Inc**
7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA
Telephone: +1-925-3991568
E-mail: bpgoffice@wjgnet.com
Help Desk: https://www.f6publishing.com/helpdesk
https://www.wjgnet.com