Metabolic Approach in Treating Renal Cell Carcinoma in a Congenital Solitary Kidney

Ahmed Elsakka MD, Nasha Winters ND FABNO, Deborah Kennedy ND PhD

Introduction

This case study explores an innovative metabolic intervention for the treatment of renal cell carcinoma in a 71-year-old obese female with a solitary congenital kidney. The patient, who also had diabetes, opted against standard surgical removal and renal dialysis, leading to the implementation of a comprehensive metabolic therapy regimen.

Methods

Case Presentation

The initial metabolic investigations revealed high homocysteine and erythrocyte sedimentation rate levels; elevated Interleukin-6 (IL-6), creatinine and insulin levels; as well as low Vitamin D3 and hemoglobin levels.

The treatment regime involved three components:

Metabolic Optimization:

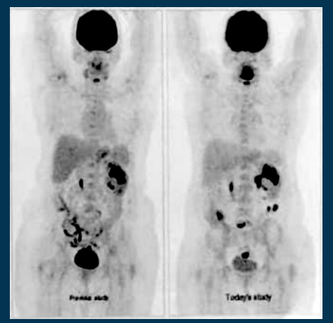
- Low glycemic index, low methionine diet
- Intravenous folinic acid
- Oral methyl folate, methyl cobalamin, riboflavin, and betaine anhydrous to regulate methylation cycle and reduce homocysteine levels
- Metformin to control glucose and decrease insulin levels

Immune Modulation and Support:

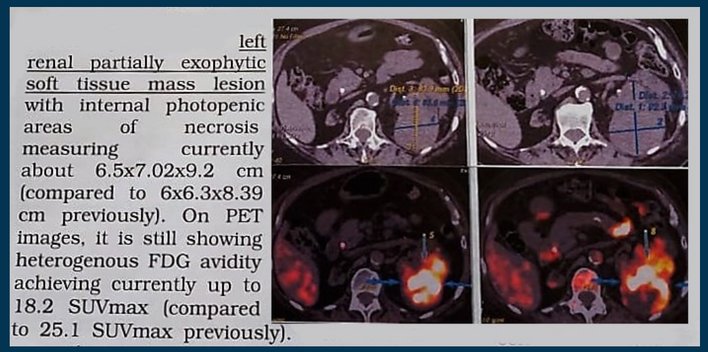
- Low-dose naltrexone and Liposomal curcumin to reduce interleukin-6
- Inositol hexaphosphate (IP6) supplement and high dose of Lactoferrin to increase hemoglobin levels

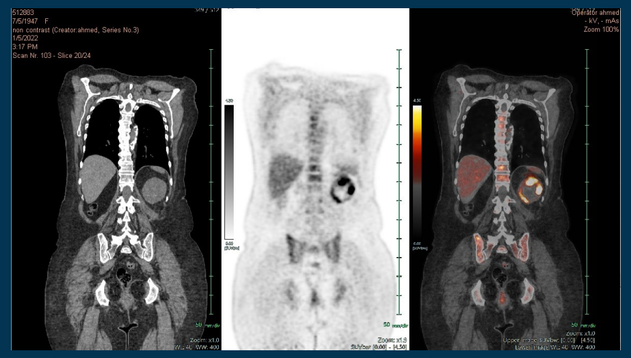
Loco regional therapy

- Weekly sessions of far-infrared hyperthermia
- Rectal ozone therapy
- Sonodynamic therapy using liposomal methylene blue and liposomal acriflavine as sonosensitizers

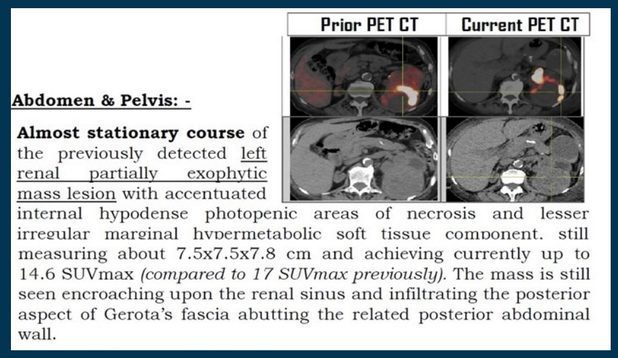


February 2021 to March 2022





April 2023



Results/Discussion

Following systemic and local therapies the patient experienced excellent quality of life. There were significant improvements in metabolic makers and in investigations. Through serial PET scans, decreases in tumor size and activity were recorded with internal photopenic areas indicating tumor necrosis. FDG decreased from 25 to 14 SUV max. Further, the low methionine diet significantly improved renal function.

metabolomics	Baseline	One month	Three months	Metabolic therapy
Homocysteine Reference range 5-10	36	22	9.8	Methyl cobalamin Betain anhydrous Folinic acid Low methionine diet
IL6 Reference range Below 7	336	274	112	Low dose naltrexone
ESR Reference range Below 20	156	98	32	Liposomal Curcumin , liposomal EGCG Liposomal hydroxycitrate
Hemoglobin Reference range 11,6-15	8.2	8.9	9.8	Inositol Hexaphosphate (IP6)
Fasting sugar Reference range 70 -100	148	111	88	Low glycemic index diet metformin
Fasting insulin Reference range 4 - 20	32	16	9.8	Low glycemic index diet metformin
Creatinine	3.8	2.7	1.9	Low methionine plant

Conclusion

This case highlights the potential efficacy of a multifaceted metabolic approach in managing renal cell carcinoma in high-risk patients, such as those with congenital solitary kidneys. The comprehensive treatment resulted in a remarkable improvement in metabolic parameters, tumor response, and overall well-being.