[0010] There have been advances in developing minimally invasive devices and methods for displacing and/or compress lobes of a prostate gland to receive pressure on and provide a less obstructed path through a urethra. These methods have focused on treating the lateral lobes of the prostate gland. There remains, however, a need for the development of new devices and methods that can be used for various procedures where it is desired to lift, compress, support, or reposition the median lobe of a prostate in a discrete procedure or in combination with treating BPH. In particular, there is a need for alternative apparatus and treatment approaches for the purpose of manipulating the median lobe of a prostate.

[0011] Still further, there is an ongoing need in the field of minimally invasive medical devices for devices and methods for the manipulation of tissue in other parts of the anatomy.

[0012] The present disclosure addresses these and other needs.

SUMMARY

[0012a] In accordance with a first aspect of the invention, there is provided a system for engaging and manipulating a median lobe of a prostate gland, comprising: a delivery device comprising an elongate tissue access assembly, wherein the elongate tissue access assembly is configured to be inserted within an introducer sheath; a tissue anchor housed within the delivery device; and a tissue engagement structure configured to engage and manipulate a median lobe of a prostate gland, wherein the tissue engagement structure is attached to a distal end of the elongate tissue access assembly, wherein the tissue engagement structure includes a distal end portion with an expandable member secured to the distal end portion of the elongate tissue access assembly, wherein the expandable member comprises curved portions having connected distal ends such that the tissue engagement structure can transition from a contracted state, in which the curved portions are compressed toward a midline defined by a longitudinal axis of the tissue engagement structure, to an expanded state, in which the curved portions expand outward from the midline defined by the longitudinal axis of the tissue engagement structure, wherein movement of the tissue engagement structure relative to the elongate tissue access assembly transitions the tissue engagement structure between the contracted state and the expanded state by sliding the distal end portion of the elongate tissue access assembly along the longitudinal axis toward and away from the curved portions of the expandable member.

[0013] Embodiments of the disclosure include a treatment device for engaging and manipulating a median lobe of a prostate gland. The treatment device includes an elongate

tissue access assembly coupled to a handle assembly, wherein the elongate tissue access assembly is configured to be inserted within an introducer sheath, and a tissue engagement structure attached to a distal end portion of the elongate tissue access assembly, wherein the tissue engagement structure can transition from a contracted state to an expanded state when the elongate tissue access assembly exits a distal end of the introducer sheath.

[0014] In another embodiment of the disclosure, the tissue engagement structure comprises a first expandable portion having an asymmetrical cross-section. In another embodiment of the disclosure, a proximal portion of the first expandable portion is attached to the elongate tissue access assembly. In another embodiment of the disclosure, the tissue engagement structure comprises a channel to receive the distal end portion of the elongate tissue access assembly. In another embodiment of the disclosure, movement of the tissue engagement structure relative to the elongate tissue access assembly is constrained to be along a longitudinal axis of the elongate tissue access assembly. In another embodiment of the disclosure, movement of the tissue engagement structure relative to the elongate tissue access assembly transitions the tissue engagement structure from the contracted state to the expanded state. In another embodiment of the disclosure, the elongate tissue access assembly further comprises an aperture and a needle assembly that is extendable through the aperture. In another embodiment of the disclosure, the tissue engagement structure further comprises a first visual marker indicating a tissue entry position for the needle assembly. In another

embodiment of the disclosure, the tissue engagement structure further comprises a second expandable portion having an asymmetrical cross-section. In another embodiment of the disclosure, wherein the elongate tissue access assembly further comprises an aperture and a needle assembly that is extendable through the aperture.

[0015] Embodiments of the disclosure include, a system for engaging and manipulating a median lobe of a prostate gland such that the system includes an anchor delivery device comprising an elongate tissue access assembly, wherein the elongate tissue access assembly is configured to be inserted within an introducer sheath, a tissue anchor housed within the anchor delivery device, and a tissue engagement structure attached to a distal end portion of the elongate tissue access assembly, wherein the tissue engagement structure can transition from a contracted state to an expanded state. In another embodiment of the disclosure, the tissue engagement structure comprises a first expandable portion having an asymmetrical cross-section. In another embodiment of the disclosure, a proximal portion of the first expandable portion is fixedly attached to the elongate tissue access assembly. In another embodiment of the disclosure, the tissue engagement structure comprises a slidable portion coupled to the elongate tissue access assembly. In another embodiment of the disclosure, movement of the tissue engagement structure relative to the elongate tissue access assembly transitions the tissue engagement structure from the contracted state to the expanded state. In another embodiment of the disclosure, the anchor delivery device further comprises a needle assembly. In another embodiment of the disclosure, the needle assembly is configured to deliver the tissue anchor. In another embodiment of the disclosure, the tissue engagement structure comprises a first expandable portion. In another embodiment of the disclosure, the first expandable portion further comprises a first visual marker indicating a tissue entry position for the needle assembly. In another embodiment of the disclosure, the tissue engagement structure further comprises a second expandable portion.

[0016] Other features and advantages of the present disclosure will become apparent from the following detailed description, taken in conjunction with the accompanying drawings, which illustrate, by way of example, the principles of the disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] FIG. 1 is a cross-sectional view, depicting anatomy in the area surrounding a prostate in a human subject.

[0018] FIG. 2 is an enlarged cross-sectional view of an area of FIG. 1, depicting anatomy immediately surrounding and adjacent a prostate.

CLAIMS

We Claim:

1. A system for engaging and manipulating a median lobe of a prostate gland, comprising:

a delivery device comprising an elongate tissue access assembly, wherein the elongate tissue access assembly is configured to be inserted within an introducer sheath;

a tissue anchor housed within the delivery device; and

a tissue engagement structure configured to engage and manipulate a median lobe of a prostate gland, wherein the tissue engagement structure is attached to a distal end of the elongate tissue access assembly, wherein the tissue engagement structure includes a distal end portion with an expandable member secured to the distal end portion of the elongate tissue access assembly, wherein the expandable member comprises curved portions having connected distal ends such that the tissue engagement structure can transition from a contracted state, in which the curved portions are compressed toward a midline defined by a longitudinal axis of the tissue engagement structure, to an expanded state, in which the curved portions expand outward from the midline defined by the longitudinal axis of the tissue engagement structure,

wherein movement of the tissue engagement structure relative to the elongate tissue access assembly transitions the tissue engagement structure between the contracted state and the expanded state by sliding the distal end portion of the elongate tissue access assembly along the longitudinal axis toward and away from the curved portions of the expandable member.

2. The system of claim 1, wherein the expandable member comprises arms with an asymmetrical cross-section such that a length along a first axis is different than a length along a second axis that is orthogonal to the first axis.

3. The system of claim 2, wherein a proximal portion of the expandable member is fixedly attached to the elongate tissue access assembly.

4. The system of claim 1, wherein the tissue engagement structure comprises a slidable portion coupled to the elongate tissue access assembly.

5. The system of claim 1, wherein the expandable member comprises a first pair of arms.

6. The system of claim 5, wherein the expandable member further comprises a second pair of arms.