UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

February 4, 2018

Vimal Mehta, Ph.D.
Chief Executive Officer
BioXcel Therapeutics, Inc.
780 East Main Street
Branford, CT 06405

Re: BioXcel Therapeutics, Inc.
Amendment No. 2 to Draft Registration Statement on Form S-1
Filed January 26, 2018
CIK No. 0001720893

Dear Dr. Mehta:

We have reviewed your amended draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Amendment No. 2 to Draft Registration Statement on Form S-1

Business, page 84

1. We note your response to our prior comment 1. Please revise the reference on page 93 to Dex having an acceptable safety profile and the reference on page 118 to BXCL702 having an observed safety profile suitable for the treatment of elderly patients.

Summary of Existing BXCL701 Clinical Data (Previously Studied as Talabostat), page 108

2. We note your disclosure in Figure 13b that the PTH-304, PTH-305 and PTH-320 trials were halted and that the whole clinical program was placed on hold. Please disclose in

this section why this occurred.

3. We note your disclosure regarding the adverse events observed in these trials. Please revise to disclose all of the serious adverse events patients experienced during these trials and the number of patients who experienced them.

4. We note your disclosure that the Medical Dictionary for Regulatory Activities was used throughout the trials to code reported adverse event terms and that the terms in some cases were more narrowly defined than others. Please provide an example of this.

You may contact Bonnie Baynes at 202-551-4924 or Angela Connell at 202-551-3426 if you have questions regarding comments on the financial statements and related matters. Please contact Ada D. Sarmento at 202-551-3798 or Mary Beth Breslin at 202-551-3625 with any other questions.

Division of Corporation Finance
Office of Healthcare & Insurance

cc: Jeffrey Fessler